Multi Split Systems

Models: MMSD - A/AR
MMST - A/AR
MMSH - A

M4MSD - A/AR
M4MST - A/AR

MSD

MST

MSH

McQuay®
Air Conditioning

Contents

General Information 2

Features 2

Coupling Versatility 3

Specifications 11

Outlines And Dimensions 35

Wiring Diagram 42

Refrigerant Circuit Diagram 51

Special Precautions For R407C 56

Installation 58

Remote Controller Operation Guide 64

Servicing And Maintenance 69

Operation 72

Troubleshooting 72

Part List 74

Note : Installation and maintenance are to be performed only by qualified personnel who are familiar with local codes and regulations, and experienced with this type of equipment.

Caution: Sharp edges and coil surfaces are a potential injury hazard. Avoid contact with them.

Warning : Moving machinery and electrical power hazard. May cause severe personal injury or death. Disconnect and lock off power before servicing equipment.

This manual supercedes MMS-2004

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General Information

Product Nomenclature :

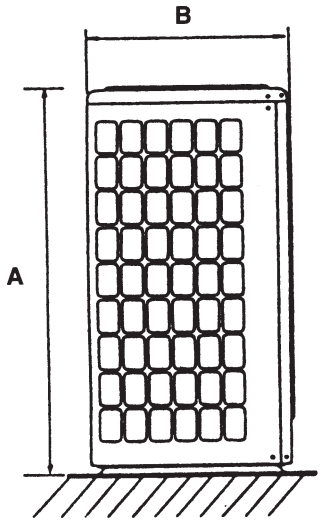
M	4	MS	D	1010	A	R
	- R22 4 R407C		Double Compressor		Generation	
Brand Name (M=McQuay)		Multi Split		Product Capacity		R : Heatpump Omitted if cooling

M	4	MS	T	101010	A	R
	- R22 4 R407C		Triple Compressor		Generation	
Brand Name (M=McQuay)		Multi Split		Product Capacity		R : Heatpump Omitted if cooling

Features

Triple S (Slim - Short - Stable)

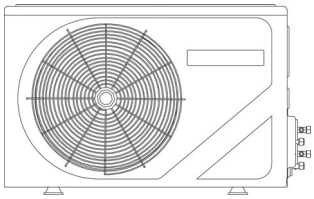
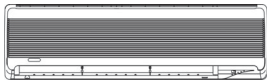
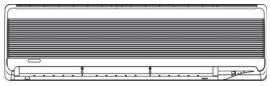
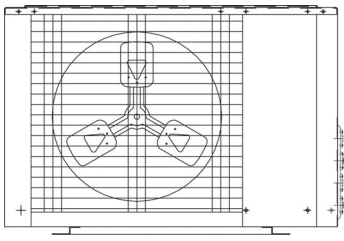
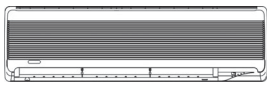
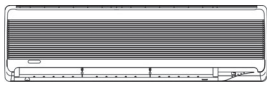
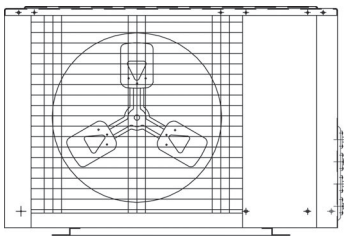
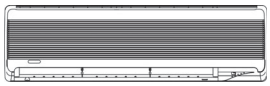
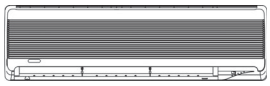
Slim and short outdoor unit can be easily installed even in a narrow balcony and passageway, and yet have a stable profile.



MODEL	A (cm)	B (cm)
MMSD/M4MSD 1010 / 1015 / 1515 A/AR	64.6	33.5
MMSD 1020A / 1520A/AR / 2020A	65.0	43.7
MMST/M4MST 101010 / 101015 / 101515 / 151515 A/AR MMST 101020 / 101025 / 101525 / 151525 A	65.0	43.7
MMSH 8K8A / 8K66A / 66K66A / 66K555A	64.6	33.5
MMSHK77A	49.4	27.5

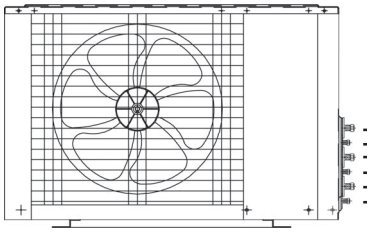
Air Discharge

Coupling Versatility

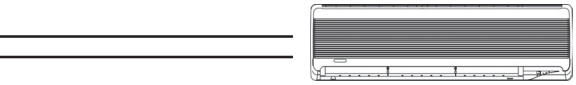
OUTDOOR	INDOOR
 Cooling MMSD / M4MSD 1010/1015/1515A Heatpump MMSD / M4MSD 1010/1015/1515AR MMSD 1520AR	 Cooling : MWMS 010/015F Heatpump : MWMS 010/015FR  Cooling : MWMS 010/015F Heatpump : MWMS 010/015/020FR
 Cooling MMSD 1020/1520A	 Cooling : MWMS 010/015F  Cooling : MWMS 020F
 Cooling MMSD 2020A	 Cooling : MWMS 020F  Cooling : MWMS 020F

OUTDOOR

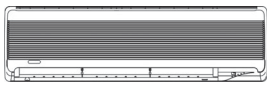
INDOOR



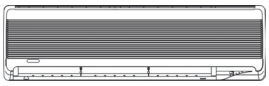
Cooling
MMST 101010 / 101015 / 101515 / 151515A
MMST 101020A
M4MST 101010 / 101015 / 101515 / 151515 A/AR



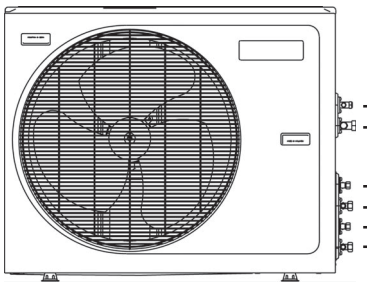
Cooling : MWMS 010/015F
Heatpump : MWMS 010/015FR



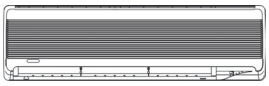
Cooling : MWMS 010/015F
Heatpump : MWMS 010/015FR



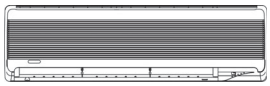
Cooling : MWMS 010/015/020F
Heatpump : MWMS 010/015FR



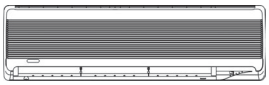
Cooling
MMST 101025 / 101525 / 151525A



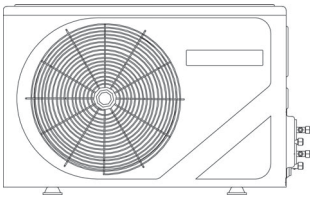
Cooling : MWMS 025F



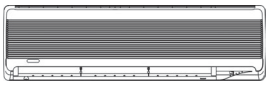
Cooling : MWMS 010/015F



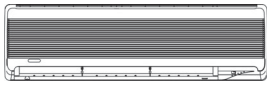
Cooling : MWMS 010/015F



Cooling
MMSHK77A

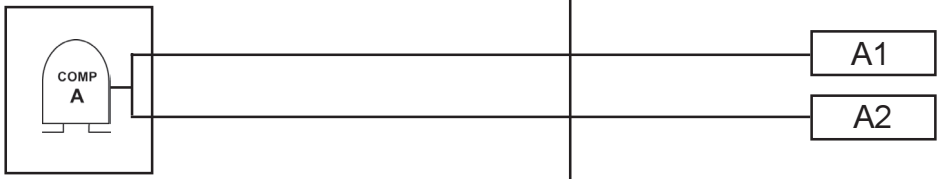


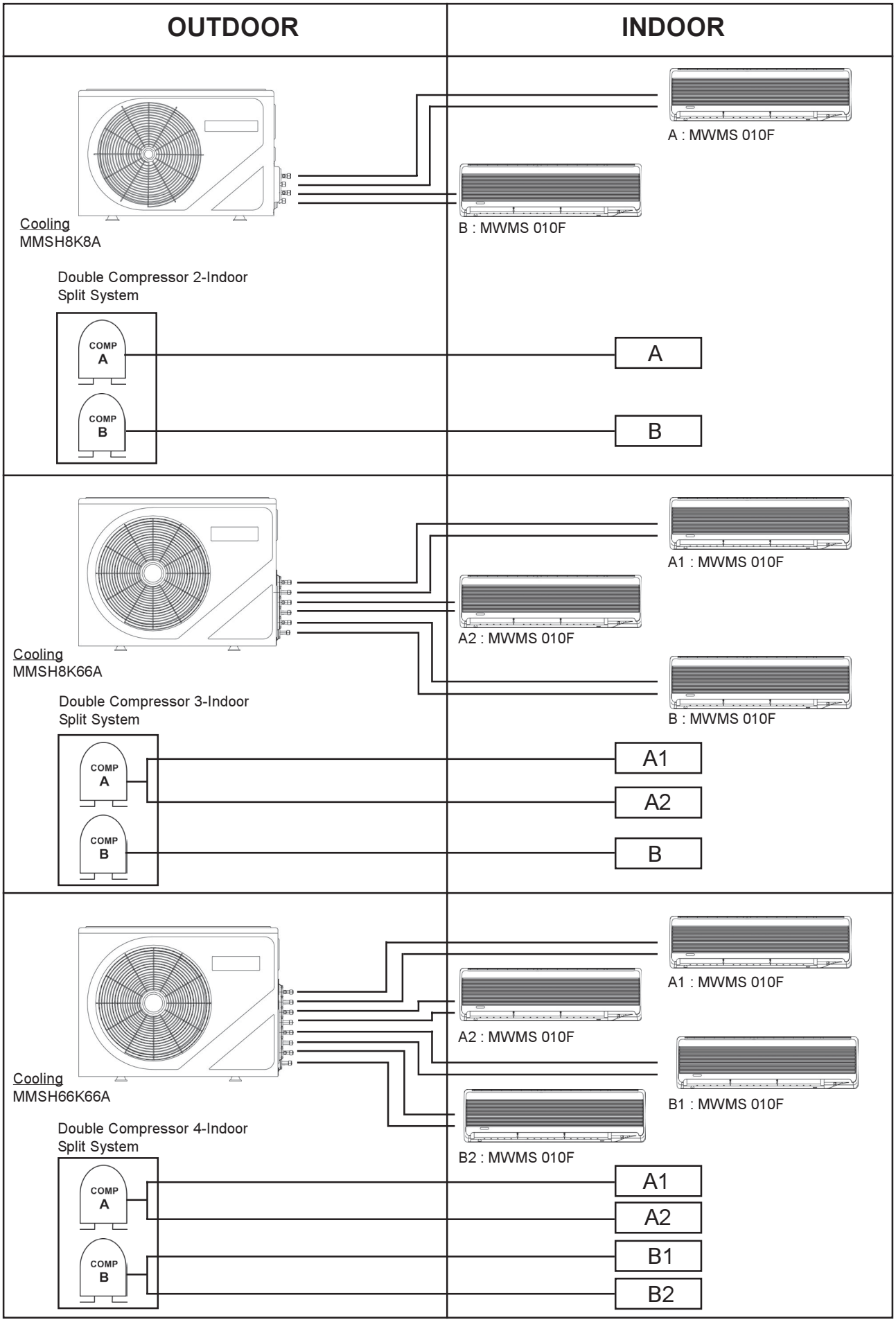
A1 : MWMS 015F

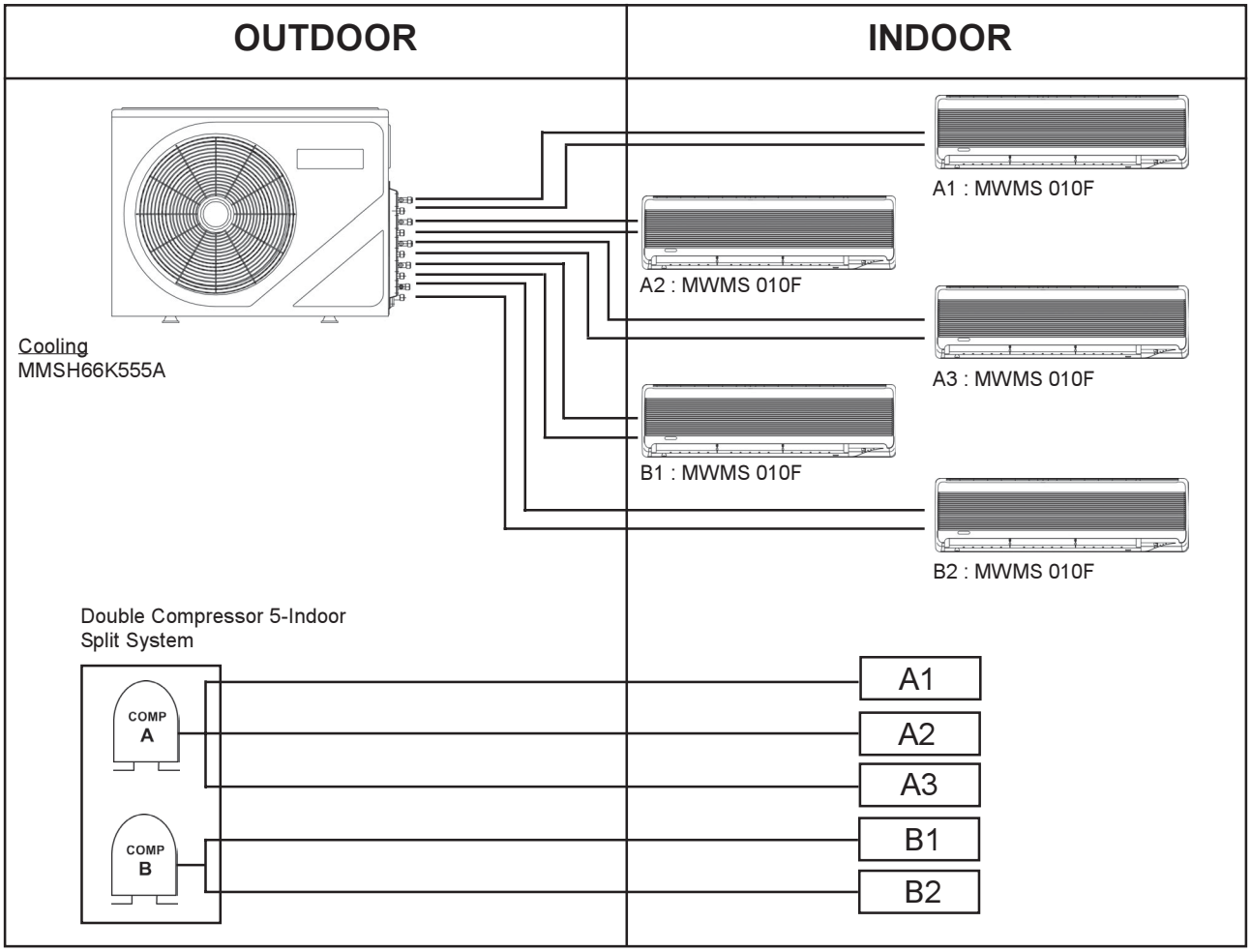


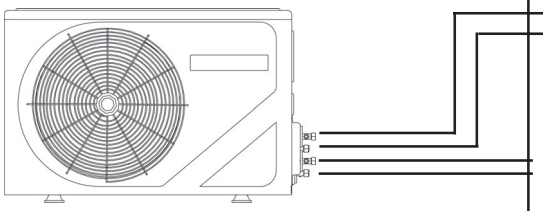
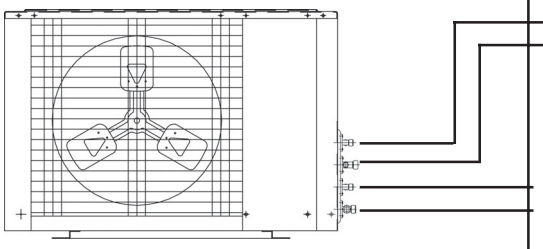
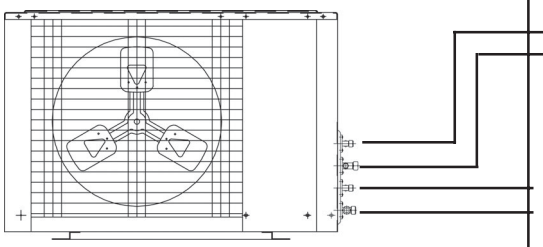
A2 : MWMS 015F

Single Compressor 2-Indoor
Split System



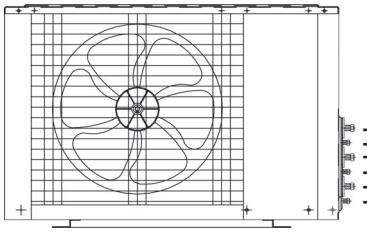

OUTDOOR
INDOOR
A : MWMS 010F
B : MWMS 010F
Cooling
MMSH8K8A
Double Compressor 2-Indoor
Split System
COMP A
COMP B
A
B
A1 : MWMS 010F
A2 : MWMS 010F
B : MWMS 010F
Cooling
MMSH8K66A
Double Compressor 3-Indoor
Split System
COMP A
COMP B
A1
A2
B
A1 : MWMS 010F
A2 : MWMS 010F
B1 : MWMS 010F
B2 : MWMS 010F
Cooling
MMSH66K66A
Double Compressor 4-Indoor
Split System
COMP A
COMP B
A1
A2
B1
B2


OUTDOOR
INDOOR
A1 : MWMS 010F
A2 : MWMS 010F
A3 : MWMS 010F
B1 : MWMS 010F
B2 : MWMS 010F
Cooling
MMSH66K555A
Double Compressor 5-Indoor
Split System
COMP
A
COMP
B
A1
A2
A3
B1
B2

OUTDOOR	INDOOR
 Cooling MMSD / M4MSD 1010/1015/1515A Heatpump MMSD / M4MSD 1010/1015/1515AR MMSD 1520AR	 Cooling : MWMS 010/015G Heatpump : MWMS 010/015GR Cooling : MWMS 010/015G Heatpump : MWMS 010/015/020GR
 Cooling MMSD 1020/1520A	 Cooling : MWMS 010/015G Cooling : MWMS 020G
 Cooling MMSD 2020A	 Cooling : MWMS 020G Cooling : MWMS 020G

OUTDOOR

INDOOR

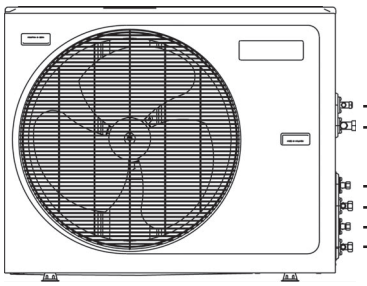


Cooling : MWMS 010/015G
Heatpump : MWMS 010/015GR

Cooling : MWMS 010/015G
Heatpump : MWMS 10/015GR

Cooling : MWMS 010/015/020G
Heatpump : MWMS 010/015GR

Cooling
MMST 101010 / 101015 / 101515 / 151515A
MMST 101020A
M4MST 101010 / 101015 / 101515 / 151515 A/AR

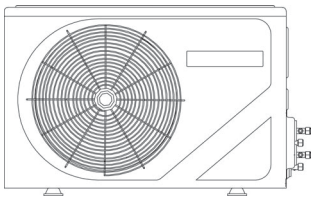


Cooling : MWMS 025G

Cooling : MWMS 010/015G

Cooling : MWMS 010/015G

Cooling
MMST 101025 / 101525 / 151525A

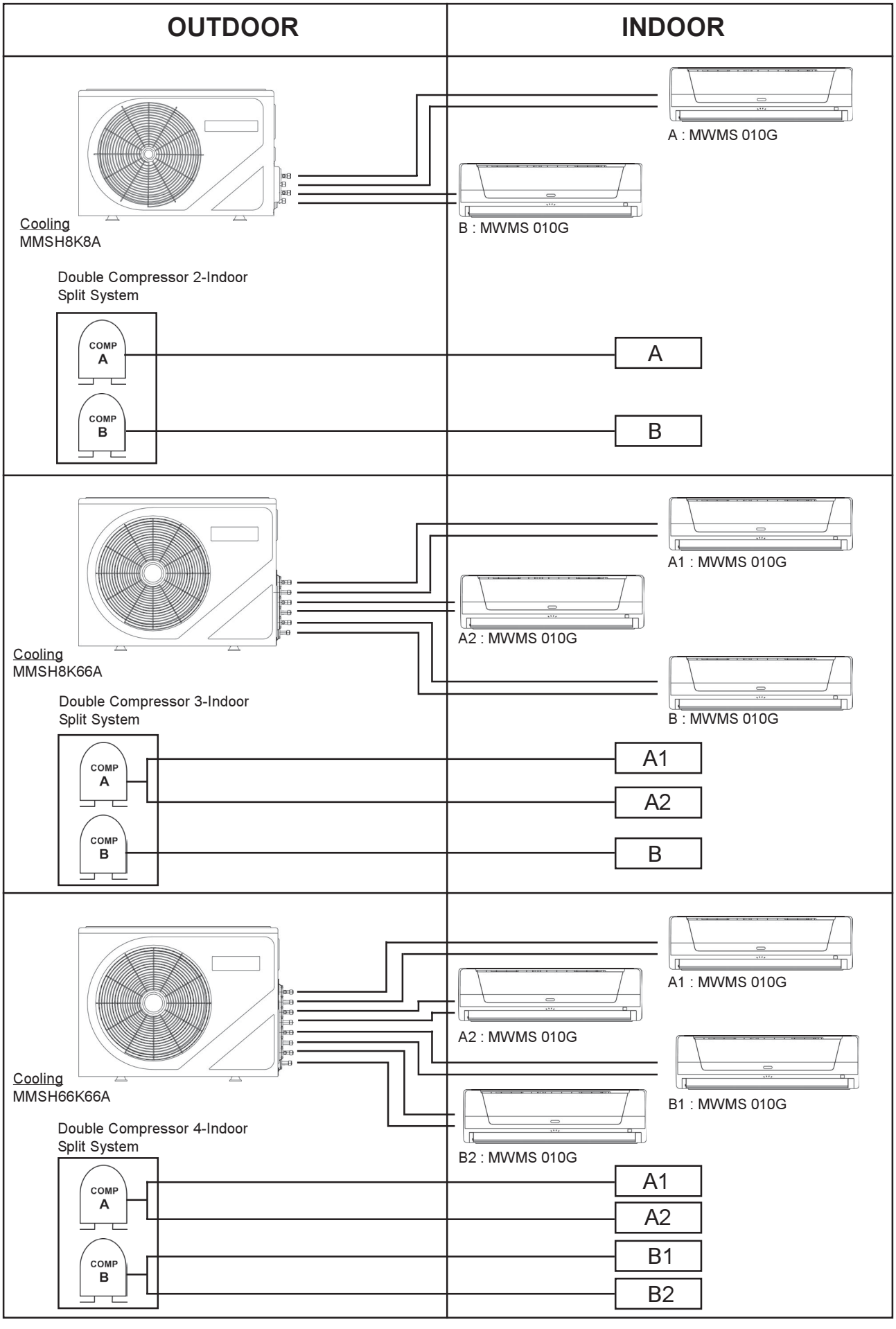


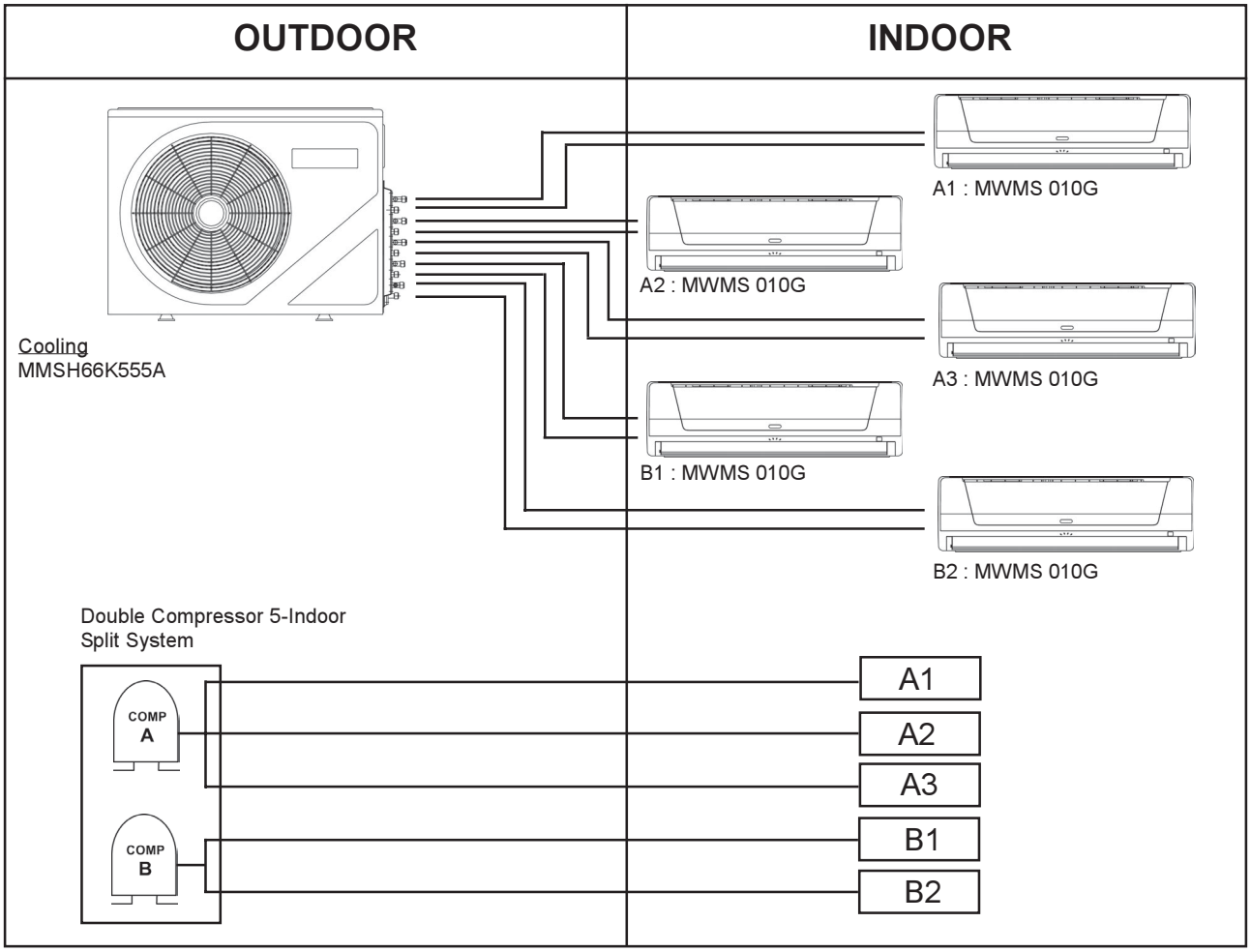
A1 : MWMS 015G

A2 : MWMS 015G

Cooling
MMSHK77A

Single Compressor 2-Indoor
Split System


OUTDOOR
INDOOR
A : MWMS 010G
B : MWMS 010G
Cooling
MMSH8K8A
Double Compressor 2-Indoor
Split System
COMP A
COMP B
A
B
A1 : MWMS 010G
A2 : MWMS 010G
B : MWMS 010G
Cooling
MMSH8K66A
Double Compressor 3-Indoor
Split System
COMP A
COMP B
A1
A2
B
A1 : MWMS 010G
A2 : MWMS 010G
B1 : MWMS 010G
B2 : MWMS 010G
Cooling
MMSH66K66A
Double Compressor 4-Indoor
Split System
COMP A
COMP B
A1
A2
B1
B2


OUTDOOR
INDOOR
A1 : MWMS 010G
A2 : MWMS 010G
A3 : MWMS 010G
B1 : MWMS 010G
B2 : MWMS 010G
Cooling
MMSH66K555A
Double Compressor 5-Indoor
Split System
COMP
A
COMP
B
A1
A2
A3
B1
B2

Specifications

MMSD SERIES COOLING ONLY

MODEL		OUTDOOR UNIT		MMSD1010A		MMSD1015A		MMSD1515A	
		INDOOR UNIT		MWMS010F	MWMS010F	MWMS010F	MWMS015F	MWMS015F	MWMS015F
NOMINAL COOLING CAPACITY			kcal/h	2,394		2,394	3,200	3,200	
			W	2,784		2,784	3,722	3,722	
			Btu/h	9,500		9,500	12,700	12,700	
RATED POWER CONSUMPTION		ONE UNIT RUNNING	W	1,018	1,018	1,018	1,459	1,459	1,459
		TWO UNITS RUNNING	W	1,890		2,307		2,758	
RATED RUNNING CURRENT		ONE UNIT RUNNING	A	4.47	4.47	4.47	6.43	6.43	6.43
		TWO UNITS RUNNING	A	8.30		10.18		12.10	
POWER SOURCE			V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL				R 22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6		300 / 141.6	300 / 141.6	300 / 141.6
			MEDIUM	CFM/LPS	230 / 108.6		230 / 108.6	270 / 127.4	270 / 127.4
			LOW	CFM/LPS	190 /89.7		190 /89.7	230 / 108.6	230 / 108.6
		FAN MOTOR			4 POLES X 10W			4 POLES X 12W	
		RATED INPUT POWER		W	25		25	30	30
		RATED RUNNING CURRENT		A	0.11		0.11	0.13	0.13
		FAN MOTOR PROTECTION			BUILT IN THERMAL FUSE				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	7.0 / 0.276				
			THICKNESS	mm/in	0.28 / 0.011				
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)				
			THICKNESS	mm/in	0.11 / 0.0043				
			ROW		2				
			FIN PER INCH		18				
		FACE AREA		m^2/ft^2	0.193 / 2.08				
		DIMENSION	HEIGHT	mm/in	290 / 11.4				
			WIDTH	mm/in	815 / 32.1				
			DEPTH	mm/in	179 / 7.0				
		WEIGHT		kg	9.5				
		SOUND PRESSURE LEVEL (H/M/L)		dBA	38 / 34 / 30	38 / 34 / 30	38 / 35 / 31	38 / 35 / 31	
		CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT				
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)				
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL				
		CONDENSATE DRAIN SIZE		mm/in	16 / 0.63				
		AIR FILTER			WASHABLE SARANET				
		PACKING DIMENSION	HEIGHT	mm/in	371 / 14.6				
			WIDTH	mm/in	875 / 34.4				
			DEPTH	mm/in	269 / 10.6				
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY				
		NUMBER			2				
		CAPACITOR		μF	30		30		30
		LOCK ROTOR AMP		A	18.9	18.9	25		25
		PROTECTION DEVICE			OVERLOAD PROTECTION				
	FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT				
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN				
		DIAMETER		mm/in	406.4 / 16				
		RATED RUNNING CURRENT		A	0.72				
		RATED OUTPUT POWER		W	80				
		RATED INPUT POWER		W	170				
		AIR FLOW		CFM/LPS	1400 / 660.8				
	COIL	TUBE	MATERIAL		SEAMLESS BARE COPPER	SEAMLESS INNER GROOVED COPPER			
			DIAMETER	mm/in	9.52 / 3/8				
			THICKNESS	mm/in	0.33 / 0.013				
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)				
			THICKNESS	mm/in	0.12 / 0.005				
			ROW		2				
			FIN PER INCH		14	16			
		FACE AREA		m^2/ft^2	0.51 / 5.53				
		DIMENSION	HEIGHT	mm/in	646 / 25.4				
			WIDTH	mm/in	840 / 33.1				
			DEPTH	mm/in	330 / 13.0				
		WEIGHT		kg	62		63		64
		SOUND PRESSURE LEVEL		dBA	56				
		CASING	MATERIAL		GALVANISED MILD STEEL				
			THICKNESS	mm/in	0.8 / 0.031				
			FINISHING		EPOXY-POLYESTER POWDER				
	PIPE	TYPE			FLARE VALVE				
		SIZE	LIQUID	mm/in	6.35 / 1/4		6.35 / 1/4	6.35 / 1/4	6.35 / 1/4
			GAS	mm/in	9.52 / 3/8		9.52 / 3/8	12.7 / 1/2	12.7 / 1/2
		PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0				
			WIDTH	mm/in	982 / 38.7				
			DEPTH	mm/in	461 / 18.1				
		REFRIGERANT CHARGE		kg	2 x 0.825		0.825	0.850	2 x 0.85

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94.
3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMSD SERIES COOLING ONLY

MODEL		OUTDOOR UNIT		MMSD1020A		MMSD1520A		MMSD2020A	
		INDOOR UNIT		MWMS010F	MWMS020F	MWMS015F	MWMS020F	MWMS020F	MWMS020F
NOMINAL COOLING CAPACITY			kcal/h	2,394	4,536	3,200	4,536	4,536	
			W	2,784	5,275	3,721	5,275	5,275	
			Btu/h	9,500	18,000	12,700	18,000	18,000	
RATED POWER CONSUMPTION		ONE UNIT RUNNING	W	1,018	2,076	1,459	2,076	2,076	2,076
		TWO UNITS RUNNING	W	3,050		3,350		4,150	
RATED RUNNING CURRENT		ONE UNIT RUNNING	A	4.47	10.20	6.43	10.20	10.20	10.20
		TWO UNITS RUNNING	A	14.7		16.2		20.4	
POWER SOURCE			V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL				R 22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6	580 / 273.7	300 / 141.6	580 / 273.7	580 / 273.7
			MEDIUM	CFM/LPS	230 / 108.6	530 / 250.1	270 / 127.4	530 / 250.1	530 / 250.1
			LOW	CFM/LPS	190 /89.7	480 / 226.5	230 / 108.6	480 / 226.5	480 / 226.5
		FAN MOTOR			4 POLES x 10W	4 POLES x 20W	4 POLES x 12W	4 POLES x 20W	4 POLES x 20W
		RATED INPUT POWER		W	25	46	30	46	46
		RATED RUNNING CURRENT		A	0.11	0.19	0.13	0.19	0.19
		FAN MOTOR PROTECTION			BUILT IN THERMAL FUSE				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	7.0 / 0.276				
			THICKNESS	mm/in	0.28 / 0.011				
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)				
			THICKNESS	mm/in	0.11 / 0.0043				
			ROW		2				
			FIN PER INCH		18				
		FACE AREA		m^2/ft^2	0.193/2.08	0.224 / 2.411	0.193/2.08	0.224 / 2.411	0.224 / 2.411
	DIMENSION		HEIGHT	mm/in	290 / 11.4	306 / 12.0	290 / 11.4	306 / 12.0	306 / 12.0
			WIDTH	mm/in	815 / 32.1	1043 / 41.1	815 / 32.1	1043 / 41.1	1043 / 41.1
			DEPTH	mm/in	179 / 7.0	189 / 7.4	179 / 7.0	189 / 7.4	189 / 7.4
	WEIGHT			kg	9.5	14.5	9.5	14.5	14.5
	SOUND PRESSURE LEVEL (H/M/L)			dBA	38 / 34 / 30	45 / 42 / 39	38 / 35 / 31	45 / 42 / 39	45 / 42 / 39
	CONTROL		ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT				
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)				
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL				
	CONDENSATE DRAIN SIZE			mm/in	16 / 0.63	20 / 0.79	16 / 0.63	20 / 0.79	20 / 0.79
	AIR FILTER				WASHABLE SARANET FILTER				
	PACKING DIMENSION		HEIGHT	mm/in	371 / 14.6	484 / 19.1	371 / 14.6	484 / 19.1	484 / 19.1
			WIDTH	mm/in	875 / 34.4	1123 / 44.2	875 / 34.4	1123 / 44.2	1123 / 44.2
			DEPTH	mm/in	269 / 10.6	292 / 11.5	269 / 10.6	292 / 11.5	292 / 11.5
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY				
		NUMBER			2				
		CAPACITOR		µF	30	45	30	45	45
		LOCK ROTOR AMP		A	18.9	56	25	56	56
		PROTECTION DEVICE			OVERLOAD PROTECTION				
	FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT				
		BLADE MATERIAL			ALUMINIUM ALLOY WITH ELECTRO- DEPOSITED EPOXY &				GLASS REINFORCED ACRLY
		DIAMETER		mm/in	457.2 / 18				482.6 / 19
		RATED RUNNING CURRENT		A	0.61				0.93
		RATED OUTPUT POWER		W	50				150
		RATED INPUT POWER		W	137				214
		AIR FLOW		CFM/LPS	1400 / 660.8	2400 / 1132.8	1400 / 660.8	2400 / 1132.8	2400 / 1132.8
	COIL	TUBE	MATERIAL		SEAMLESS BARE COPPER				
			DIAMETER	mm/in	9.52 / 3/8				
			THICKNESS	mm/in	0.33 / 0.013				
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)				
			THICKNESS	mm/in	0.127 / 0.005				
			ROW		3				
			FIN PER INCH		14				
		FACE AREA		m^2/ft^2	0.586 / 6.31				
	DIMENSION		HEIGHT	mm/in	631.7 / 24.9				
			WIDTH	mm/in	960 / 37.8				
			DEPTH	mm/in	437 / 17.2				
	WEIGHT			kg	95		99		106
	SOUND PRESSURE LEVEL			dBA	59		59		61
	CASING		MATERIAL		GALVANISED MILD STEEL				
			THICKNESS	mm/in	1.0 - 1.2 / 0.039 - 0.047				
			FINISHING		EPOXY-POLYESTER POWDER				
	PIPE	TYPE			FLARE VALVE / FITTING				
		SIZE	LIQUID	mm/in	6.35 / 1/4		6.35 / 1/4		6.35 / 1/4
			GAS	mm/in	9.52 / 3/8	15.88 / 5/8	12.70 / 1/2	15.88 / 5/8	15.88 / 5/8
	PACKING DIMENSION		HEIGHT	mm/in	824 / 32.4				
			WIDTH	mm/in	1194 / 47.0				
			DEPTH	mm/in	611 / 24.1				
	REFRIGERANT CHARGE			kg	1.100	1.600	1.100	1.600	2 x 1.450

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a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMSD SERIES HEATPUMP UNIT

MODEL		OUTDOOR UNIT		MMSD1010AR		MMSD1015AR		MMSD1515AR	
		INDOOR UNIT		MWMS010FR	MWMS010FR	MWMS010FR	MWMS015FR	MWMS015FR	MWMS015FR
NOMINAL COOLING CAPACITY		ONE / TWO UNIT RUNNING	kcal/h	2343 / 2293		2,343	3,024	3024 / 2898	
			W	2726 / 2667		2,726	3,517	3517 / 3370	
			Btu/h	9300 / 9100		9,300	12,000	12000 / 11500	
NOMINAL HEATING CAPACITY		ONE / TWO UNIT RUNNING	kcal/h	2746 / 2696		2,746	3,276	3276 / 3024	
			W	3195 / 3136		3,195	3,810	3810 / 3517	
			Btu/h	10900 / 10700		10,900	13,000	13000 / 12000	
RATED POWER CONSUMPTION (COOLING)		ONE UNIT RUNNING	W	1,000	1,000	1,000	1,240	1,240	1,240
		TWO UNITS RUNNING	W	1,862		2,123		2,472	
RATED POWER CONSUMPTION (HEATING)		ONE UNIT RUNNING	W	1,160	1,160	1,160	1,358	1,358	1,358
		TWO UNITS RUNNING	W	2,046		2,370		2,450	
RATED RUNNING CURRENT (COOLING)		ONE UNIT RUNNING	A	4.50	4.50	4.50	5.59	5.59	5.59
		TWO UNITS RUNNING	A	8.30		9.50		11.18	
RATED RUNNING CURRENT (HEATING)		ONE UNIT RUNNING	A	5.10	5.10	5.10	6.05	6.05	6.05
		TWO UNITS RUNNING	A	9.20		10.40		11.04	
POWER SOURCE			V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL				R22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6		300 / 141.6	300 / 141.6	300 / 141.6
			MEDIUM	CFM/LPS	230 / 108.6		230 / 108.6	270 / 127.4	270 / 127.4
			LOW	CFM/LPS	190 /89.7		190 /89.7	230 / 108.6	230 / 108.6
		FAN MOTOR			4 POLES X 10W			4 POLES X 12W	
		RATED INPUT POWER		W	25		25	30	30
		RATED RUNNING CURRENT		A	0.11		0.11	0.13	0.13
		FAN MOTOR PROTECTION			BUILT IN THERMAL FUSE				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	7.0 / 0.276				
			THICKNESS	mm/in	0.28 / 0.011				
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)				
			THICKNESS	mm/in	0.11 / 0.0043				
			ROW		2				
			FIN PER INCH		18				
		FACE AREA		m^2/ft^2	0.193 / 2.08				
		DIMENSION	HEIGHT	mm/in	290 / 11.4				
			WIDTH	mm/in	815 / 32.1				
			DEPTH	mm/in	179 / 7.0				
		WEIGHT		kg	9.5				
		SOUND PRESSURE LEVEL (H/M/L)		dBA	38 / 34 / 30		38 / 34 / 30	38 / 35 / 31	38 / 35 / 31
		CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT				
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)				
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL				
		CONDENSATE DRAIN SIZE		mm/in	16 / 0.63				
		AIR FILTER			WASHABLE SARANET				
		PACKING DIMENSION	HEIGHT	mm/in	371 / 14.6				
			WIDTH	mm/in	875 / 34.4				
			DEPTH	mm/in	269 / 10.6				
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY				
		NUMBER			2				
		CAPACITOR		µF	30		30		30
		LOCK ROTOR AMP		A	18.9		18.9	25	25
		PROTECTION DEVICE			OVERLOAD PROTECTION				
	FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT				
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN				
		DIAMETER		mm/in	406.4 / 16				
		RATED RUNNING CURRENT		A	0.72				
		RATED OUTPUT POWER		W	80				
		RATED INPUT POWER		W	170				
		AIR FLOW		CFM/LPS	1400 / 660.8				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	9.52 / 3/8				
			THICKNESS	mm/in	0.33 / 0.013				
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)				
			THICKNESS	mm/in	0.12 / 0.005				
			ROW		2				
			FIN PER INCH		16				
		FACE AREA		m^2/ft^2	0.51 / 5.53				
		DIMENSION	HEIGHT	mm/in	646 / 25.4				
			WIDTH	mm/in	840 / 33.1				
			DEPTH	mm/in	330 / 13.0				
		WEIGHT		kg	63		64		65
		SOUND PRESSURE LEVEL		dBA	56				
		CASING	MATERIAL		GALVANISED MILD STEEL				
			THICKNESS	mm/in	0.8 / 0.031				
			FINISHING		EPOXY-POLYESTER POWDER				
	PIPE	TYPE			FLARE VALVE				
		SIZE	LIQUID	mm/in	6.35 / 1/4		6.35 / 1/4	6.35 / 1/4	6.35 / 1/4
			GAS	mm/in	9.52 / 3/8		9.52 / 3/8	12.7 / 1/2	12.7 / 1/2
		PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0				
			WIDTH	mm/in	982 / 38.7				
			DEPTH	mm/in	461 / 18.1				
		REFRIGERANT CHARGE		kg	2 x 0.775		0.775	0.900	2 x 0.900

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a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMSD SERIES HEATPUMP UNIT

MODEL			**OUTDOOR UNIT**		**MMSD1520AR**	
			INDOOR UNIT		**MWMS015FR**	**MWMS020FR**
NOMINAL COOLING CAPACITY			**ONE / TWO UNIT RUNNING**	**kcal/h**	3024 / 2772	4536 / 4536
				W	3517 / 3224	5275 / 5275
				Btu/h	12000 / 11000	18000 / 18000
NOMINAL HEATING CAPACITY			**ONE / TWO UNIT RUNNING**	**kcal/h**	3276 / 3024	5040 / 4788
				W	3810 / 3517	5862 / 5568
				Btu/h	13000 / 12000	20000 / 19000
RATED POWER CONSUMPTION (COOLING)			**ONE UNIT RUNNING**	**W**	1,345	2,195
			TWO UNITS RUNNING	**W**	3,462	
RATED POWER CONSUMPTION (HEATING)			**ONE UNIT RUNNING**	**W**	1,378	2,412
			TWO UNITS RUNNING	**W**	3,477	
RATED RUNNING CURRENT (COOLING)			**ONE UNIT RUNNING**	**A**	5.99	11.86
			TWO UNITS RUNNING	**A**	17.37	
RATED RUNNING CURRENT (HEATING)			**ONE UNIT RUNNING**	**A**	6.19	12.96
			TWO UNITS RUNNING	**A**	17.57	
POWER SOURCE				**V/Ph/Hz**	220 ~ 240 / 1 / 50	
REFRIGERANT / CONTROL					R22 / OUTDOOR CAPILLARY TUBE	
INDOOR UNIT	**FAN**	**FAN TYPE**			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT	
		AIR FLOW	**HIGH**	**CFM/LPS**	300 / 141.6	580 / 273.7
			MEDIUM	**CFM/LPS**	270 / 127.4	530 / 250.1
			LOW	**CFM/LPS**	230 / 108.6	480 / 226.5
		FAN MOTOR			4 POLES x 12W	4 POLES x 20W
		RATED INPUT POWER		**W**	30	40
		RATED RUNNING CURRENT		**A**	0.13	0.19
		FAN MOTOR PROTECTION			BUILT IN THERMAL FUSE	
	COIL	**TUBE**	**MATERIAL**		SEAMLESS INNER GROOVED COPPER	
			DIAMETER	**mm/in**	7.0 / 0.276	
			THICKNESS	**mm/in**	0.28 / 0.011	
		FIN	**MATERIAL**		ALUMINIUM (HYDROPHILIC SLIT FIN)	
			THICKNESS	**mm/in**	0.11 / 0.0043	
			ROW		2	
			FIN PER INCH		18	
		FACE AREA		**m^2/ft^2**	0.193 / 2.08	0.224 / 2.411
	DIMENSION		**HEIGHT**	**mm/in**	290 / 11.4	306 / 12.0
			WIDTH	**mm/in**	815 / 32.1	1043 / 41.1
			DEPTH	**mm/in**	179 / 7.0	189 / 7.4
	WEIGHT			**kg**	9.5	14.5
	SOUND PRESSURE LEVEL (H/M/L)			**dBA**	38 / 35 / 31	45 / 42 / 39
			ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT	
	CONTROL		**AIR DISCHARGE**		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)	
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL	
	CONDENSATE DRAIN SIZE			**mm/in**	16 / 0.63	20 / 0.79
	AIR FILTER				WASHABLE SARANET	
	PACKING DIMENSION		**HEIGHT**	**mm/in**	371 / 14.6	484 / 19.1
			WIDTH	**mm/in**	875 / 34.4	1123 / 44.2
			DEPTH	**mm/in**	269 / 10.6	292 / 11.5
OUTDOOR UNIT	**COMP**	**COMPRESSOR TYPE**			ROTARY	
		NUMBER			2	
		CAPACITOR		**μF**	30	45
		LOCK ROTOR AMP		**A**	25	56
		PROTECTION DEVICE			OVERLOAD PROTECTION	
	FAN	**FAN TYPE / DRIVE**			PROPELLER/DIRECT	
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN	
		DIAMETER		**mm/in**	482.6 / 19	
		RATED RUNNING CURRENT		**A**	0.98	
		RATED OUTPUT POWER		**W**	150	
		RATED INPUT POWER		**W**	222	
	COIL	**TUBE**	**MATERIAL**		SEAMLESS INNER GROOVED COPPER	
			DIAMETER	**mm/in**	9.52 / 3/8	
			THICKNESS	**mm/in**	0.33 / 0.013	
		FIN	**MATERIAL**		ALUMINIUM (SLIT FIN TYPE)	
			THICKNESS	**mm/in**	0.12 / 0.005	
			ROW		3	
			FIN PER INCH		14	
		FACE AREA		**m^2/ft^2**	0.50 / 5.39	
	DIMENSION		**HEIGHT**	**mm/in**	631.7 / 24.9	
			WIDTH	**mm/in**	960.0 / 37.8	
			DEPTH	**mm/in**	437.0 / 17.2	
	WEIGHT			**kg**	100	
	SOUND PRESSURE LEVEL			**dBA**	61	
	CASING		**MATERIAL**		GALVANISED MILD STEEL	
			THICKNESS	**mm/in**	0.8 / 0.031	
			FINISHING		EPOXY-POLYESTER POWDER	
	PIPE	**TYPE**			FLARE VALVE	
		SIZE	**LIQUID**	**mm/in**	6.35 / 1/4	6.35 / 1/4
			GAS	**mm/in**	12.70 / 1/2	15.88 / 5/8
	PACKING DIMENSION		**HEIGHT**	**mm/in**	813 / 32.0	
			WIDTH	**mm/in**	1144 / 45.0	
			DEPTH	**mm/in**	611 / 24.1	
	REFRIGERANT CHARGE			**kg**	0.925	1.650

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

M4MSD SERIES COOLING ONLY

MODEL		INDOOR UNIT		M4MSD1010A		M4MSD1015A		M4MSD1515A	
		OUTDOOR UNIT		MWMS010F	MWMS010F	MWMS010F	MWMS015F	MWMS015F	MWMS015F
NOMINAL COOLING CAPACITY			kcal/h	2,268		2,268	3,024	3,024	
			W	2,638		2,638	3,517	3,517	
			Btu/h	9,000		9,000	12,000	12,000	
RATED POWER CONSUMPTION		ONE UNIT RUNNING	W	1,035	1,035	1,035	1,566	1,566	1,566
		TWO UNITS RUNNING	W	1,900		2,431		2,962	
RATED RUNNING CURRENT		ONE UNIT RUNNING	A	4.40	4.40	4.40	7.00	7.00	7.00
		TWO UNITS RUNNING	A	8.08		10.70		13.28	
POWER SOURCE			V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL				R407C / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6		300 / 141.6	300 / 141.6	300 / 141.6
			MEDIUM	CFM/LPS	230 / 108.6		230 / 108.6	270 / 127.4	270 / 127.4
			LOW	CFM/LPS	190 /89.7		190 /89.7	230 / 108.6	230 / 108.6
		FAN MOTOR			4 POLES X 10W			4 POLES X 12W	
		RATED INPUT POWER		W	25		25	30	30
		RATED RUNNING CURRENT		A	0.11		0.11	0.13	0.13
		FAN MOTOR PROTECTION			BUILT IN THERMAL FUSE				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	7.0 / 0.276				
			THICKNESS	mm/in	0.28 / 0.011				
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)				
			THICKNESS	mm/in	0.11 / 0.0043				
			ROW		2				
			FIN PER INCH		18				
		FACE AREA		m^2/ft^2	0.193 / 2.08				
		DIMENSION	HEIGHT	mm/in	290 / 11.4				
			WIDTH	mm/in	815 / 32.1				
			DEPTH	mm/in	179 / 7.0				
		WEIGHT		kg	9.5				
		SOUND PRESSURE LEVEL (H/M/L)		dBA	38 / 34 / 30		38 / 34 / 30	38 / 35 / 31	38 / 35 / 31
		CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT				
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)				
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL				
		CONDENSATE DRAIN SIZE		mm/in	16 / 0.63				
		AIR FILTER			WASHABLE SARANET				
		PACKING DIMENSION	HEIGHT	mm/in	371 / 14.6				
			WIDTH	mm/in	875 / 34.4				
			DEPTH	mm/in	269 / 10.6				
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY				
		NUMBER			2				
		CAPACITOR		µF	30				
		LOCK ROTOR AMP		A	20			32	
		PROTECTION DEVICE			OVERLOAD PROTECTION				
		POWER SOURCE		V/Ph/Hz	220 ~ 240 / 1 / 50				
	FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT				
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN				
		DIAMETER		mm/in	406.4 / 16				
		RATED RUNNING CURRENT		A	0.72				
		RATED OUTPUT POWER		W	80				
		RATED INPUT POWER		W	170				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	9.52 / 3/8				
			THICKNESS	mm/in	0.33 / 0.013				
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)				
			THICKNESS	mm/in	0.12 / 0.005				
			ROW		2				
			FIN PER INCH		16				
		FACE AREA		m^2/ft^2	0.51 / 5.53				
		DIMENSION	HEIGHT	mm/in	646 / 25.4				
			WIDTH	mm/in	840 / 33.1				
			DEPTH	mm/in	330 / 13				
		WEIGHT		kg	62		63		64
		SOUND PRESSURE LEVEL		dBA	54				
		CASING	MATERIAL		GALVANISED MILD STEEL				
			THICKNESS	mm/in	0.8 / 0.031				
			FINISHING		EPOXY-POLYESTER POWDER				
		PIPE SIZE	TYPE		FLARE VALVE				
			LIQUID	mm/in	6.35 / 1/4			6.35 / 1/4	
			GAS	mm/in	9.52 / 3/8			12.7 / 1/2	
		PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0				
			WIDTH	mm/in	982 / 38.7				
			DEPTH	mm/in	461 / 18.1				
		REFRIGERANT CHARGE		kg	2 x 0.750		0.750	0.800	2 x 0.800

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94.
3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

M4MSD SERIES HEATPUMP UNIT

MODEL				M4MSD1010AR		M4MSD1015AR		M4MSD1515AR	
	OUTDOOR UNIT								
	INDOOR UNIT			MWMS010FR	MWMS010FR	MWMS010FR	MWMS015FR	MWMS015FR	MWMS015FR
NOMINAL COOLING CAPACITY	ONE / TWO UNIT RUNNING		kcal/h	2268 / 2268		2268 / 2268	2772 / 2646	2772 / 2646	
			W	2638 / 2268		2638 / 2638	3224 / 3077	3224 / 3077	
			Btu/h	9000 / 9000		9000 / 9000	11000 / 10500	11000 / 10500	
NOMINAL HEATING CAPACITY	ONE / TWO UNIT RUNNING		kcal/h	2394 / 2668		2394 / 2668	3024 / 2898	3024 / 2898	
			W	2784 / 2638		2784 / 2638	3517 / 3370	3517 / 3370	
			Btu/h	9500 / 9000		9500 / 9000	12000 / 11500	12000 / 11500	
RATED POWER CONSUMPTION (COOLING)	ONE UNIT RUNNING		W	994	994	994	1466	1466	1466
	TWO UNITS RUNNING		W	1914		2365		2818	
RATED POWER CONSUMPTION (HEATING)	ONE UNIT RUNNING		W	992	992	992	1476	1476	1476
	TWO UNITS RUNNING		W	1820		2245		2672	
RATED RUNNING CURRENT (COOLING)	ONE UNIT RUNNING		A	4.21	4.21	4.21	6.71	6.71	6.71
	TWO UNITS RUNNING		A	8.14		10.52		12.9	
RATED RUNNING CURRENT (HEATING)	ONE UNIT RUNNING		A	4.21	4.21	4.21	6.71	6.71	6.71
	TWO UNITS RUNNING		A	7.74		10.02		12.3	
POWER SOURCE			V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL				R407C / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT / FAN	FAN TYPE			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
	AIR FLOW	HIGH	CFM/LPS	300 / 141.6		300 / 141.6	300 / 141.6	300 / 141.6	
		MEDIUM	CFM/LPS	230 / 108.6		230 / 108.6	270 / 127.4	270 / 127.4	
		LOW	CFM/LPS	190 /89.7		190 /89.7	230 / 108.6	230 / 108.6	
	FAN MOTOR			4 POLES X 10W			4 POLES X 12W		
	RATED INPUT POWER		W	25		25	30	30	
	RATED RUNNING CURRENT		A	0.11		0.11	0.13	0.13	
	FAN MOTOR PROTECTION			BUILT IN THERMAL FUSE					
INDOOR UNIT / COIL / TUBE	MATERIAL			SEAMLESS INNER GROOVED COPPER					
	DIAMETER		mm/in	7.0 / 0.276					
	THICKNESS		mm/in	0.28 / 0.011					
INDOOR UNIT / COIL / FIN	MATERIAL			ALUMINIUM (HYDROPHILIC SLIT FIN)					
	THICKNESS		mm/in	0.11 / 0.0043					
	ROW			2					
	FIN PER INCH			18					
	FACE AREA		m^2/ft^2	0.193 / 2.08					
	DIMENSION	HEIGHT	mm/in	290 / 11.4					
		WIDTH	mm/in	815 / 32.1					
		DEPTH	mm/in	179 / 7.0					
	WEIGHT		kg	9.5					
	SOUND PRESSURE LEVEL (H/M/L)		dBA	38 / 34 / 30		38 / 34 / 30	38 / 35 / 31	38 / 35 / 31	
	CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
		AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
		OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
	CONDENSATE DRAIN SIZE		mm/in	16 / 0.63					
	AIR FILTER			WASHABLE SARANET					
	PACKING DIMENSION	HEIGHT	mm/in	371 / 14.6					
		WIDTH	mm/in	875 / 34.4					
		DEPTH	mm/in	269 / 10.6					
OUTDOOR UNIT / COMP	COMPRESSOR TYPE			ROTARY					
	NUMBER			2					
	CAPACITOR		μF	30			30		
	LOCK ROTOR AMP		A	20			32		
	PROTECTION DEVICE			OVERLOAD PROTECTION					
OUTDOOR UNIT / FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT					
	BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN					
	DIAMETER		mm/in	406.4 / 16					
	RATED RUNNING CURRENT		A	0.72					
	RATED OUTPUT POWER		W	80					
	RATED INPUT POWER		W	170					
OUTDOOR UNIT / COIL / TUBE	MATERIAL			SEAMLESS INNER GROOVED COPPER					
	DIAMETER		mm/in	9.52 / 3/8					
	THICKNESS		mm/in	0.33 / 0.013					
OUTDOOR UNIT / COIL / FIN	MATERIAL			ALUMINIUM (SLIT FIN TYPE)					
	THICKNESS		mm/in	0.12 / 0.005					
	ROW			2					
	FIN PER INCH			16					
	FACE AREA		m^2/ft^2	0.51 / 5.53					
	DIMENSION	HEIGHT	mm/in	646 / 25.4					
		WIDTH	mm/in	840 / 33.1					
		DEPTH	mm/in	330 / 13.0					
	WEIGHT		kg	63		64		65	
	SOUND PRESSURE LEVEL		dBA	54					
	CASING	MATERIAL		GALVANISED MILD STEEL					
		THICKNESS	mm/in	0.8 / 0.031					
		FINISHING		EPOXY-POLYESTER POWDER					
	PIPE / TYPE			FLARE VALVE					
	SIZE	LIQUID	mm/in	6.35 / 1/4			6.35 / 1/4		
		GAS	mm/in	9.52 / 3/8			12.7 / 1/2		
	PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0					
		WIDTH	mm/in	982 / 38.7					
		DEPTH	mm/in	461 / 18.1					
	REFRIGERANT CHARGE		kg	2 x 0.725		0.750	0.800	2 x 0.800	

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMST SERIES COOLING ONLY

MODEL			OUTDOOR UNIT			MMST101010A	MMST101015A		MMST101515A		MMST151515A
			INDOOR UNIT			3 x MWMS010F	2 x MWMS010F	MWMS015F	MWMS010F	2 x MWMS015F	3 x MWMS015F
NOMINAL					kcal/h	3 x 2394	2 x 2394	3,200	2,394	2 x 3,200	3 x 3200
COOLING					W	3 x 2784	2 x 2784	3,721	2,784	2 x 3,721	3 x 3721
CAPACITY					Btu/h	3 x 9500	2 x 9500	12,700	9,500	2 x 12,700	3 x 12700
RATED TOTAL POWER CONSUMPTION					W	2,616	3,136		3,656		4,176
RATED TOTAL RUNNING CURRENT					A	11.1	13.6		16.0		18.4
POWER SOURCE					V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL						R22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE				ANTI FUNGUS CROSS FLOW FAN					
		AIR FLOW		HIGH	CFM/LPS	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6
				MEDIUM	CFM/LPS	230 / 108.6	230 / 108.6	270 / 127.4	230 / 108.6	270 / 127.4	270 / 127.4
				LOW	CFM/LPS	190 /89.7	190 /89.7	230 / 108.6	190 /89.7	230 / 108.6	230 / 108.6
		FAN MOTOR				4 POLES x 10W		4 POLES x 12W	4 POLES x 10W	4 POLES x 12W	
		INPUT POWER			W	25		30	25	30	
		RUNNING CURRENT			A	0.11		0.13	0.11	0.13	
		FAN MOTOR PROTECTION				BUILT IN THERMAL FUSE					
	COIL	TUBE	MATERIAL			SEAMLESS INNER GROOVED COPPER					
			DIAMETER		mm/in	7.0 / 0.276					
			THICKNESS		mm/in	0.28 / 0.011					
		FIN	MATERIAL			ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS		mm/in	0.11 / 0.0043					
			ROW			2					
			FIN PER INCH			18					
		FACE AREA			m^2/ft^2	0.193 / 2.08					
		DIMENSION		HEIGHT	mm/in	290 / 11.4					
				WIDTH	mm/in	815 / 32.1					
				DEPTH	mm/in	179 / 7.0					
		WEIGHT			kg	9.5					
		SOUND PRESSURE LEVEL (H/M/L)			dBA	38 / 34 / 30		38 / 35 / 31	38 / 34 / 30	38 / 35 / 31	
		CONTROL		ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
				AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
				OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
		CONDENSATE DRAIN SIZE			mm/in	16 / 0.63					
		AIR FILTER				WASHABLE SARANET					
		PACKING DIMENSION		HEIGHT	mm/in	371 / 14.6					
				WIDTH	mm/in	875 / 34.4					
				DEPTH	mm/in	269 / 10.6					
OUTDOOR UNIT	COMP	COMPRESSOR TYPE				ROTARY					
		NUMBER				3					
		CAPACITOR			μF	30					
		LOCK ROTOR AMP			A	18.9		25	18.9	25	
		INPUT POWER			W				771	1290 / 1290	
		PROTECTION DEVICE				OVERLOAD PROTECTION					
	FAN	FAN TYPE / DRIVE				PROPELLER / DIRECT					
		BLADE MATERIAL				GLASS REINFORCED ACRLY STYRENE RESIN					
		DIAMETER			mm/in	482.6 / 19					
		RATED RUNNING CURRENT			A	0.92					
		RATED OUTPUT POWER			W	150					
		RATED INPUT POWER			W	228					
	COIL	TUBE	MATERIAL			SEAMLESS BARE COPPER					
			DIAMETER		mm/in	9.52 / 3/8					
			THICKNESS		mm/in	0.33 / 0.013					
		FIN	MATERIAL			ALUMINIUM (SLIT FIN TYPE)					
			THICKNESS		mm/in	0.12 / 0.005					
			ROW			3					
			FIN PER INCH			14					
		FACE AREA			m^2/ft^2	0.50 / 5.39					
		DIMENSION		HEIGHT	mm/in	631.7 / 24.9					
				WIDTH	mm/in	960 / 37.8					
				DEPTH	mm/in	437 / 17.2					
		WEIGHT			kg	97	101		105		109
		SOUND PRESSURE LEVEL			dBA	61	61		62		62
		CASING		MATERIAL		GALVANISED MILD STEEL					
				THICKNESS	mm/in	1.0 - 1.2 / 0.039 - 0.047					
				FINISHING		EPOXY POLYESTER POWDER					
		PIPE	TYPE			FLARE VALVE					
			SIZE	LIQUID	mm/in	6.35 / 1/4					
				GAS	mm/in	9.52 / 3/8		12.7 / 1/2	9.52 / 3/8	12.7 / 1/2	
		PACKING DIMENSION		HEIGHT	mm/in	824 / 32.4					
				WIDTH	mm/in	1,194 / 47.0					
				DEPTH	mm/in	611 / 24.1					
		REFRIGERANT CHARGE			kg	3 x 0.800	2 x 0.800	0.825	0.800	2 x 0.825	3 x 0.825

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a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMST SERIES COOLING ONLY

MODEL			**OUTDOOR UNIT**			MMST101025A		MMST101525A			MMST151525A
			INDOOR UNIT			2 x MWMS010F	MWMS025F	MWMS010F	MWMS015F	MWMS025F	2 x MWMS015F
NOMINAL					**kcal/h**	2 x 2,394	5,796	2,394	3,024	5,796	3,024
COOLING					**W**	2 x 2,784	6,741	2,784	3,517	6,741	3,517
CAPACITY					**Btu/h**	2 x 9,500	23,000	9,500	12,000	23,000	12,000
RATED TOTAL POWER CONSUMPTION					**W**	3,142		4,749			
RATED TOTAL RUNNING CURRENT					**A**	13.7		22.5			
POWER SOURCE					**V/Ph/Hz**	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL						R22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	**FAN**	**FAN TYPE**				ANTI FUNGUS CROSS FLOW FAN					
		AIR FLOW	**HIGH**		**CFM/LPS**	300 / 141.6	660 / 311.5	300 / 141.6	300 / 141.6	660 / 311.5	300 / 141.6
			MEDIUM		**CFM/LPS**	230 / 108.6	580 / 273.7	230 / 108.6	270 / 127.4	580 / 273.7	270 / 127.4
			LOW		**CFM/LPS**	190 /89.7	500 / 236.0	190 /89.7	230 / 108.6	500 / 236.0	230 / 108.6
		FAN MOTOR				4 POLES x 10W	4 POLES x 25W	4 POLES x 10W	4 POLES x 12W	4 POLES x 25W	4 POLES x 12W
		INPUT POWER			**W**	25	69	25	30	69	30
		RUNNING CURRENT			**A**	0.11	0.29	0.11	0.13	0.29	0.13
		FAN MOTOR PROTECTION				BUILT IN THERMAL FUSE					
	COIL	**TUBE**	**MATERIAL**			SEAMLESS INNER GROOVED COPPER					
			DIAMETER		**mm/in**	7.0 / 0.276					
			THICKNESS		**mm/in**	0.28 / 0.011					
		FIN	**MATERIAL**			ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS		**mm/in**	0.11 / 0.0043					
			ROW			2	2	2		2	2
			FIN PER INCH			18	18	18		18	18
		FACE AREA			**m^2/ft^2**	0.193 / 2.08	0.254 / 2.733	0.193 / 2.08		0.254 / 2.733	0.193 / 2.08
		DIMENSION	**HEIGHT**		**mm/in**	290 / 11.4	306 / 12.0	290 / 11.4		306 / 12.0	290 / 11.4
			WIDTH		**mm/in**	815 / 32.1	1062 / 41.8	815 / 32.1		1062 / 41.8	815 / 32.1
			DEPTH		**mm/in**	179 / 7.0	202 / 8.0	179 / 7.0		202 / 8.0	179 / 7.0
	WEIGHT				**kg**	9.5	16	9.5		16	9.5
	SOUND PRESSURE LEVEL (H/M/L)				**dBA**	38 / 34 / 30	47 / 44 / 42	38 / 34 / 30		47 / 44 / 42	38 / 34 / 30
	CONTROL		**ROOM TEMPERATURE**			MICROCOMPUTER CONTROLLED THERMOSTAT					
			AIR DISCHARGE			AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
			OPERATION			LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
	CONDENSATE DRAIN SIZE				**mm/in**	16 / 0.63	20 / 0.79	16 / 0.63		20 / 0.79	16 / 0.63
	AIR FILTER					WASHABLE SARANET					
	PACKING DIMENSION		**HEIGHT**		**mm/in**	371 / 14.6	484 / 19.1	371 / 14.6		484 / 19.1	371 / 14.6
			WIDTH		**mm/in**	875 / 34.4	1123 / 44.2	875 / 34.4		1123 / 44.2	875 / 34.4
			DEPTH		**mm/in**	269 / 10.6	292 / 11.5	269 / 10.6		292 / 11.5	269 / 10.6
OUTDOOR UNIT	**COMP**	**COMPRESSOR TYPE**				ROTARY					
		NUMBER				3					
		CAPACITOR			**µF**	30 / 30	50	30	30	50	30 / 30
		LOCK ROTOR AMP			**A**	18.9	70	18.9	18.9	70	25 / 25
		INPUT POWER			**W**	823	2430	745	1250	2430	1250
		PROTECTION DEVICE				OVERLOAD PROTECTION					
	FAN	**FAN TYPE / DRIVE**				PROPELLER / DIRECT					
		BLADE MATERIAL				GLASS REINFORCED ACRLY STYRENE RESIN					
		DIAMETER			**mm/in**	610 / 24					
		RATED RUNNING CURRENT			**A**	1.1					
		RATED OUTPUT POWER			**W**	145					
		RATED INPUT POWER			**W**	241					
	COIL	**TUBE**	**MATERIAL**			SEAMLESS COPPER					
			DIAMETER		**mm/in**	9.52 / 3/8					
			THICKNESS		**mm/in**	0.35 / 0.014					
		FIN	**MATERIAL**			ALUMINIUM (SLIT FIN TYPE)					
			THICKNESS		**mm/in**	0.127 / 0.005					
			ROW			2					
			FIN PER INCH			16					
		FACE AREA			**m^2/ft^2**	0.87 / 9.33					
		DIMENSION	**HEIGHT**		**mm/in**	850 / 33.46					
			WIDTH		**mm/in**	1030 / 40.55					
			DEPTH		**mm/in**	400 / 15.75					
	WEIGHT				**kg**	117		120			123
	SOUND PRESSURE LEVEL				**dBA**	57					
	CASING		**MATERIAL**			GALVANISED MILD STEEL					
			THICKNESS		**mm/in**	0.8 / 0.031					
			FINISHING			EPOXY POLYESTER POWDER					
	PIPE	**TYPE**				FLARE VALVE					
		SIZE	**LIQUID**		**mm/in**	6.35 / 1/4	9.52 / 3/8	6.35 / 1/4	6.35 / 1/4	9.52 / 3/8	6.35 / 1/4
			GAS		**mm/in**	9.52 / 3/8	15.88 / 5/8	9.52 / 3/8	12.7 / 1/2	15.88 / 5/8	12.7 / 1/2
	PACKING DIMENSION		**HEIGHT**		**mm/in**	1000 / 39.37					
			WIDTH		**mm/in**	1200 / 47.24					
			DEPTH		**mm/in**	560 / 22.05					
	REFRIGERANT CHARGE				**kg**	2 x 0.740	1.440	0.740	0.870	1.440	2 x 0.870

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

M4MST SERIES COOLING ONLY

MODEL			OUTDOOR UNIT		M4MST101010A	M4MST101015A		M4MST101515A		M4MST151515A
			INDOOR UNIT		3 x MWMS010F	2 x MWMS010F	MWMS015F	MWMS010F	2 x MWMS015F	3 x MWMS015F
NOMINAL				kcal/h	3 x 2268	2 x 2268	3024	2268	2 x 3024	3 x 3024
COOLING				W	3 X 2638	2 X 2638	3517	2638	2 x 3517	3 x 3517
CAPACITY				Btu/h	3 X 9000	2 X 9000	12000	9000	2 x 12000	3 x 12000
RATED TOTAL POWER CONSUMPTION				W	2580	3107		3634		4161
RATED TOTAL RUNNING CURRENT				A	11.1	13.8		16.5		19.0
POWER SOURCE				V/Ph/Hz	220 ~ 240/1/50					
REFRIGERANT / CONTROL					R407C / CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE			ANTI FUNGUS CROSS FLOW FAN					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6
			MEDIUM	CFM/LPS	230 / 108.6	230 / 108.6	270 / 127.4	230 / 108.6	270 / 127.4	270 / 127.4
			LOW	CFM/LPS	190 /89.7	190 /89.7	230 / 108.6	190 /89.7	230 / 108.6	230 / 108.6
		FAN MOTOR			4 POLES x 10W	4 POLES x 10W	4 POLES x 12W	4 POLES x 10W	4 POLES x 12W	4 POLES x 12W
		INPUT POWER		W	25	25	30	25	30	30
		RUNNING CURRENT		A	0.11	0.11	0.13	0.11	0.13	0.13
		FAN MOTOR PROTECTION			BUILT IN THERMAL FUSE					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	7.0 / 0.276					
			THICKNESS	mm/in	0.28 / 0.011					
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS	mm/in	0.11 / 0.0043					
			ROW		2					
			FIN PER INCH		18					
		FACE AREA		m^2/ft^2	0.193 / 2.08					
	DIMENSION		HEIGHT	mm/in	290 / 11.4					
			WIDTH	mm/in	815 / 32.1					
			DEPTH	mm/in	179 / 7.0					
	WEIGHT			kg	9.5					
	SOUND PRESSURE LEVEL (H/M/L)			dBA	38 / 34 / 30	38 / 34 / 30	38 / 35 / 31	38 / 34 / 30	38 / 35 / 31	38 / 35 / 31
	CONTROL		ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
	CONDENSATE DRAIN SIZE			mm/in	16 / 0.63					
	AIR FILTER				WASHABLE SARANET					
	PACKING DIMENSION		HEIGHT	mm/in	371 / 14.6					
			WIDTH	mm/in	875 / 34.4					
			DEPTH	mm/in	269 / 10.6					
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY					
		NUMBER			3					
		CAPACITOR		μF	30					
		LOCK ROTOR AMP		A	20	20	25	20	25	25
		INPUT POWER		W	758	758	1281	758	1281	1281
		PROTECTION DEVICE			OVERLOAD PROTECTION					
	FAN	FAN TYPE / DRIVE			PROPELLER / DIRECT					
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN					
		DIAMETER		mm/in	482.6 / 19					
		RATED RUNNING CURRENT		A	0.98					
		MOTOR OUTPUT		W	150					
		RATED INPUT POWER		W	230					
		AIR FLOW		CFM/LPS	2400 / 1133					
	COIL	TUBE	MATERIAL		SEAMLESS COPPER					
			DIAMETER	mm/in	9.52 / 3/8					
			THICKNESS	mm/in	0.33 / 0.013					
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)					
			THICKNESS	mm/in	0.12 / 0.005					
			ROW		3					
			FIN PER INCH		14					
		FACE AREA		m^2/ft^2	0.50 / 5.39					
	DIMENSION		HEIGHT	mm/in	631.7 / 24.9					
			WIDTH	mm/in	960 / 37.8					
			DEPTH	mm/in	437 / 17.2					
	WEIGHT			kg	97	101		105		109
	SOUND PRESSURE LEVEL			dBA	61					
	CASING		MATERIAL		GALVANISED MILD STEEL					
			THICKNESS	mm/in	1.0 - 1.2 / 0.039 - 0.047					
			FINISHING		EPOXY POLYESTER POWDER					
	PIPE	TYPE			FLARE VALVE					
		SIZE	LIQUID	mm/in	6.35 / 1/4					
			GAS	mm/in	9.52 / 3/8	9.52 / 3/8	12.7 / 1/2	9.52 / 3/8	12.7 / 1/2	12.7 / 1/2
	PACKING DIMENSION		HEIGHT	mm/in	824 / 32.4					
			WIDTH	mm/in	1194 / 47.0					
			DEPTH	mm/in	611 / 24.1					
	REFRIGERANT CHARGE			kg	3 x 0.750	2 x 0.750	0.775	0.750	2 x 0.775	3 x 0.775

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ARI 210/240-94.
3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

M4MST SERIES HEATPUMP

MODEL					M4MST101010AR	M4MST101015AR		M4MST101515AR		M4MST151515AR
		OUTDOOR UNIT								
		INDOOR UNIT			3 x MWMS010FR	2 x MWMS010FR	MWMS015FR	MWMS010FR	2 x MWMS015FR	3 x MWMS015FR
NOMINAL				kcal/h	3 x 2268	2 x 2268	3024	2268	2 x 3024	3 x 3024
COOLING				W	3 x 2638	2 x 2638	3517	2638	2 x 3517	3 x 3517
CAPACITY				Btu/h	3 x 9000	2 x 9000	12000	9000	2 x 12000	3 x 12000
NOMINAL				kcal/h	3 x 2268	2 x 2268	2772	2268	2 x 2772	3 x 2772
HEATING				W	3 x 2638	2 x 2638	3224	2638	2 x 3224	3 x 3224
CAPACITY				Btu/h	3 x 9000	2 x 9000	11000	9000	2 x 11000	3 x 11000
RATED TOTAL POWER CONSUMPTION (COOLING)				W	2691	3069		3759		3825
RATED TOTAL POWER CONSUMPTION (HEATING)				W	2439	2773		3314		3441
RATED TOTAL RUNNING CURRENT (COOLING)				A	11.7	13.7		16.7		17.7
RATED TOTAL RUNNING CURRENT (HEATING)				A	10.6	12.9		15.7		17.1
POWER SOURCE				V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT					R407C / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN TYPE				ANTI FUNGUS CROSS FLOW FAN					
	FAN	AIR FLOW	HIGH	CFM/LPS	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6	300 / 141.6
			MEDIUM	CFM/LPS	230 / 108.6	230 / 108.6	270 / 127.4	230 / 108.6	270 / 127.4	270 / 127.4
			LOW	CFM/LPS	190 /89.7	190 /89.7	230 / 108.6	190 /89.7	230 / 108.6	230 / 108.6
		FAN MOTOR			4 POLES x 10W	4 POLES x 10W	4 POLES x 12W	4 POLES x 10W	4 POLES x 12W	4 POLES x 12W
		INPUT POWER		W	25	25	30	25	30	30
		RUNNING CURRENT		A	0.11	0.11	0.13	0.11	0.13	0.13
		FAN MOTOR PROTECTION			BUILT IN THERMAL FUSE					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	7.0 / 0.276					
			THICKNESS	mm/in	0.28 / 0.011					
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS	mm/in	0.11 / 0.0043					
			ROW		2					
			FIN PER INCH		18					
	FACE AREA			m^2/ft^2	0.193 / 2.08					
	DIMENSION		HEIGHT	mm/in	290 / 11.4					
			WIDTH	mm/in	815 / 32.1					
			DEPTH	mm/in	179 / 7.0					
	WEIGHT			kg	9.5					
	SOUND PRESSURE LEVEL (H/M/L)			dBA	38 / 34 / 30	38 / 34 / 30	38 / 35 / 31	38 / 34 / 30	38 / 35 / 31	38 / 35 / 31
	CONTROL		ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
	CONDENSATE DRAIN SIZE			mm/in	16 / 0.63					
	AIR FILTER				WASHABLE SARANET					
	OPTIONAL AIR FILTER				DUAL ACTION ELECTROSTATIC AIR PURIFYING AND DEODORIZING FILTER					
	PACKING DIMENSION		HEIGHT	mm/in	371 / 14.6					
			WIDTH	mm/in	875 / 34.4					
			DEPTH	mm/in	269 / 10.6					
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY					
		NUMBER			3					
		CAPACITOR		μF	30					
		LOCK ROTOR AMP		A	20	20	25	20	25	25
		INPUT POWER (COOLING / HEATING)		W	796 / 712	796 / 712	1169 / 1041	796 / 712	1169 / 1041	1169 / 1041
		PROTECTION DEVICE			OVERLOAD PROTECTION					
	FAN	FAN TYPE / DRIVE			PROPELLER / DIRECT					
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN					
		DIAMETER		mm/in	482.6 / 19					
		RATED RUNNING CURRENT		A	0.98					
		MOTOR OUTPUT		W	150					
		RATED INPUT POWER		W	228					
		AIR FLOW		CFM/LPS	2400 / 1133					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	9.52 / 3/8					
			THICKNESS	mm/in	0.33 / 0.013					
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)					
			THICKNESS	mm/in	0.12 / 0.005					
			ROW		3					
			FIN PER INCH		14					
		FACE AREA		m^2/ft^2	0.50 / 5.39					
		DIMENSION	HEIGHT	mm/in	631.7 / 24.9					
			WIDTH	mm/in	960 / 37.8					
			DEPTH	mm/in	437 / 17.2					
	WEIGHT			kg	97	101		105		109
	SOUND PRESSURE LEVEL			dBA	66					
	CASING		MATERIAL		GALVANISED MILD STEEL					
			THICKNESS	mm/in	1.0 - 1.2 / 0.039 - 0.047					
			FINISHING		EPOXY POLYESTER POWDER					
	PIPE	TYPE			FLARE VALVE					
		SIZE	LIQUID	mm/in	6.35 / 1/4					
			GAS	mm/in	9.52 / 3/8	9.52 / 3/8	12.7 / 1/2	9.52 / 3/8	12.7 / 1/2	12.7 / 1/2
	PACKING DIMENSION		HEIGHT	mm/in	824 / 32.4					
			WIDTH	mm/in	1194 / 47.0					
			DEPTH	mm/in	611 / 24.1					
	REFRIGERANT CHARGE			kg	3 x 0.885	2 x 0.885	0.965	0.885	2 x 0.965	3 x 0.965

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMSH SERIES COOLING ONLY

MODELS				OUTDOOR UNIT		MMSH8K8A	MMSH8K66A	MMSH66K66A	MMSH66K555A		MMSHK77A
				INDOOR UNIT		MWMS010F (X2)	MWMS010F (X3)	MWMS010F (X4)	MWMS010F (X4)	MWMS015F	MWMS015F X 2
POWER SOURCE					V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT						R 22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN			FAN TYPE		ANTI FUNGUS CROSS FLOW TANGENTIAL FAN/DIRECT					
				AIR FLOW	CFM/LPS	300 / 142					
				FAN MOTOR		4 POLES X 10W				4 POLES X 12W	
				RATED INPUT POWER	W	26					
				RATED RUNNING CURRENT	A	0.11					
				FAN MOTOR PROTECTION		BUILT IN THERMAL FUSE					
	COIL	TUBE		MATERIAL		SEAMLESS INNER GROOVED COPPER					
				DIAMETER	mm/in	7.0 / 0.276					
				THICKNESS	mm/in	0.28 / 0.011					
		FIN		MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)					
				THICKNESS	mm/in	0.11 / 0.0043					
				ROW		2					
				FIN PER INCH		18					
				FACE AREA	m^2/ft^2	0.193 / 2.08					
			DIMENSION	HEIGHT	mm/in	290 / 11.4					
				WIDTH	mm/in	815 / 32.1					
				DEPTH	mm/in	179 / 7.0					
			WEIGHT		kg	9.5					
			SOUND LEVEL - H / M / L		dBA	38 / 34 / 30				38 / 35 / 31	
			CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
				AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)					
				OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
			CONDENSATE DRAIN SIZE		mm/in	16 / 0.63					
			AIR FILTER *			WASHABLE SARANET					
			PACKING DIMENSION	HEIGHT	mm/in	371 / 14.6					
				WIDTH	mm/in	875 / 34.4					
				DEPTH	mm/in	269 / 10.6					
OUTDOOR UNIT	COMP			COMPRESSOR TYPE		ROTARY					
				NUMBER		2					1
				CAPACITOR	µF	25					30
				LOCK ROTOR AMP	A	15 / 15			21 / 21		25
				PROTECTION DEVICE		OVERLOAD PROTECTION					
	FAN			FAN TYPE / DRIVE		PROPELLER/DIRECT					
				BLADE MATERIAL		GLASS REINFORCED ACRLY STYRENE RESIN					
				DIAMETER	mm/in	406.4 / 16					355.6 / 14
				RATED RUNNING CURRENT	A	0.72					0.28
				RATED OUTPUT POWER	W	80					30
				RATED INPUT POWER	W	170					62
	COIL	TUBE		MATERIAL		SEAMLESS INNER GROOVED COPPER					
				DIAMETER	mm/in	9.52 / 3/8					
				THICKNESS	mm/in	0.33 / 0.013					
		FIN		MATERIAL		ALUMINIUM (SLIT FIN TYPE)					
				THICKNESS	mm/in	0.12 / 0.005					
				ROW		2					1
				FIN PER INCH		16					18
				FACE AREA	m^2/ft^2	0.51 / 5.53					0.32 / 3.50
			DIMENSION	HEIGHT (mm/in)		646 / 25.4 "					494 / 19.4"
				WIDTH (mm/in)		840 / 33.1 "					740 / 29.1"
				DEPTH (mm/in)		330 / 13 "					270 / 10.6"
			DIMENSION	HEIGHT	mm/in	646 / 25.4					558 / 22.0
				WIDTH	mm/in	840 / 33.1					851 / 33.5
				DEPTH	mm/in	330 / 13.0					401 / 15.8
			WEIGHT		kg	62	63	64	65		35
			CASING	MATERIAL		GALVANISED MILD STEEL					
				THICKNESS	mm/in	0.8 / 0.031					
				FINISH		EPOXY-POLYESTER POWDER					
			NOISE LEVEL		dBA	56					50
	PIPE			TYPE		FLARE VALVE					
			PIPE SIZE	LIQIUD	mm/in	6.35 / 1/4					
				GAS	mm/in	9.52 / 3/8				12.7 / 1/2	
			PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0					558 / 2.0
				WIDTH	mm/in	982 / 38.7					851 / 33.5
				DEPTH	mm/in	461 / 18.1					401 / 15.8
REFRIGERANT CHARGE					kg	2 x 0.675	0.925 / 0.625	2 x 0.825	0.925 / 0.875		0.825

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

COOLING CAPACITY
MMSH SERIES COOLING ONLY

MODEL	OUTDOOR UNIT	MMSHK77A		MMSH8K8A	
	INDOOR UNIT	INDOOR A,B : MWMS015F X 2		INDOOR UNIT A, B : MWMS010F X 2	
NOMINAL	NUMBER OF UNIT	ONE UNIT RUNNING	TWO UNITS RUNNING	ONE UNIT RUNNING	TWO UNITS RUNNING
COOLING	OPERATING	A OR B	A + B	A OR B	A + B
CAPACITY	kcal/h	3100	1840 + 1840	2091	2091 + 2091
	W	3605	2140 + 2140	2433	2433 + 2433
	Btu/h	12300	7300 + 7300	8300	8300 + 8300
POWER CONSUMPTION (W)		1389	1445	804	1466
RUNNING CURRENT (A)		6.1	6.4	3.4	6.1

MODEL	OUTDOOR UNIT	MMSH8K66A				
	INDOOR UNIT	INDOOR UNIT A1, A2, B : MWMS010F X 2				
NOMINAL	NUMBER OF UNIT	ONE UNIT RUNNING		TWO UNITS RUNNING		THREE UNITS RUNNING
COOLING	OPERATING	A1 OR A2	B	A1+A2	A1+B, OR A2+B	A1+A2+B
CAPACITY	kcal/h	2520	2041	1613 + 1613	2520 + 2041	1613 + 1613 + 2041
	W	2931	2374	1876 + 1876	2931 + 2374	1876 + 1876 +2374
	Btu/h	10000	8100	6400 + 6400	10000 + 8100	6400 + 6400 + 8100
POWER CONSUMPTION (W)		1150	835	1246	1840	1940
RUNNING CURRENT (A)		5.0	3.6	5.3	7.9	8.2

MODEL	OUTDOOR UNIT	MMSH66K66A			
	INDOOR UNIT	INDOOR UNIT A1, A2, B1, B2 : MWMS010F X 2			
NOMINAL	NUMBER OF UNIT	ONE UNIT RUNNING	TWO UNITS RUNNING		FOUR UNITS RUNNING
COOLING	OPERATING	A1, A2, B1, OR B2	A1+A2, OR B1+B2	A1+B1, OR A2+B2	A1+A2+B1+B2
CAPACITY	kcal/h	2520	1613 + 1613	2520 + 2520	4 X 1613
	W	2931	1876 + 1876	2931 + 2931	4 X 1876
	Btu/h	10000	6400 + 6400	10000 + 10000	4 X 6400
POWER CONSUMPTION (W)		1164	1248	2188	2355
RUNNING CURRENT (A)		5.1	5.4	9.6	10.2

MODEL	OUTDOOR UNIT	MMSH66K555A					
	INDOOR UNIT	INDOOR UNIT A1, A2,A3, B1 : MWMS010F X 4, B2 : MWMS015F					
NOMINAL	NUMBER OF UNIT	ONE UNIT RUNNING		TWO UNITS RUNNING			
COOLING	OPERATING	A1,A2,A3, OR B1	B2	A1+A2,A2+A3, OR A3+A1	B1+B2	(A1,A2, OR A3) + B1	(A1,A2, OR A3) + B2
CAPACITY	kcal/h	2520	3024	2 X 1613	1512 + 1764	2 X 2520	2520 + 3024
	W	2931	3517	2 X 1876	1578 + 2052	2 X 2931	2931 + 3517
	Btu/h	10000	12000	2 X 6400	6000 + 7000	2 X 10000	10000 + 12000
POWER CONSUMPTION (W)		1207	1262	1288	1301	2244	2299
RUNNING CURRENT (A)		5.3	5.5	5.6	5.7	9.9	10.1

MODEL	OUTDOOR UNIT	MMSH66K555A			
	INDOOR UNIT	INDOOR UNIT A1, A2,A3, B1 : MWMS010F X 4, B2 : MWMS015F			
NOMINAL	NUMBER OF UNIT	THREE UNIT RUNNING			
COOLING	OPERATING	A1 + A2 +A3	A1 + A2 + B1	A1 + A2 + B2	A1 + B1 + B2
CAPACITY	kcal/h	3 X 1134	2 X 1613 + 2520	2 X 1613 + 3024	2520 + 1512 +1764
	W	3 X 1319	2 X 1876 + 2931	2 X 1876 +3517	2931 + 1758 + 2052
	Btu/h	3 X 4500	2 X 6400 + 10000	2 X 6400 + 10000	10000 + 6000 + 7000
POWER CONSUMPTION (W)		1332	2325	2380	2338
RUNNING CURRENT (A)		5.8	10.2	10.4	10.3

MODEL	OUTDOOR UNIT	MMSH66K555A			
	INDOOR UNIT	INDOOR UNIT A1, A2,A3, B1 : MWMS010F X 4, B2 : MWMS015F			
NOMINAL	NUMBER OF UNIT	FOUR UNITS RUNNING			FIVE UNITS RUNNING
COOLING	OPERATING	A1 + A2 + A3 + B1	A1 + A2 + A3 + B2	A1 + A2 + B1 + B2	A1 + A2 + A3 + B1 + B2
CAPACITY	kcal/h	3 X 1134 + 2520	3 X 1134 + 3024	2 X 1613 + 1512 + 1764	3 X 1134 + 1512 + 1764
	W	3 X 1319 + 2931	3 X 1319 + 3517	2 X 1876 + 1758 + 2052	3 X 1319 + 1758 + 2052
	Btu/h	3 X 4500 + 10000	3 X 4500 + 12000	2 X 6400 + 6000 + 7000	3 X 4500 + 6000 + 7000
POWER CONSUMPTION (W)		2369	2424	2419	2464
RUNNING CURRENT (A)		10.4	10.5	10.6	10.8

MMSD SERIES COOLING ONLY

MODEL		OUTDOOR UNIT		MMSD1010A		MMSD1015A		MMSD1515A	
		INDOOR UNIT		MWMS010G	MWMS010G	MWMS010G	MWMS015G	MWMS015G	MWMS015G
NOMINAL COOLING CAPACITY		ONE / TWO UNIT RUNNING	kcal/h	2,394		2,394	3,200	3,200	
			W	2,784		2,784	3,721	3,721	
			Btu/h	9,500		9,500	12,700	12,700	
RATED POWER CONSUMPTION		ONE UNIT RUNNING	W	1,018	1,018	1,018	1,459	1,459	1,459
		TWO UNITS RUNNING	W	1,864		2,310		2,756	
RATED RUNNING CURRENT		ONE UNIT RUNNING	A	4.47	4.47	4.47	6.43	6.43	6.43
		TWO UNITS RUNNING	A	8.3		10.2		12.1	
POWER SOURCE			V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL				R 22					
INDOOR UNIT	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6		300 / 141.6	345 / 162.82	345 / 162.82
			MEDIUM	CFM/LPS	250 / 117.99		250 / 117.99	285 / 134.51	285 / 134.51
			LOW	CFM/LPS	200 / 94.39		200 / 94.39	220 / 103.83	220 / 103.83
		FAN MOTOR			4 POLES X 9W			4 POLES X 13W	
		RATED INPUT POWER		W	26		26	29	29
		RATED RUNNING CURRENT		A	0.11		0.11	0.13	0.13
		FAN MOTOR PROTECTION			THERMAL OVERLOAD RELAY				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	7.0 / 0.276				
			THICKNESS	mm/in	0.28 / 0.011				
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)				
			THICKNESS	mm/in	0.11 / 0.0043				
			ROW		2				
			FIN PER INCH		18				
		FACE AREA		m^2/ft^2	0.234 / 2.516				
	DIMENSION		HEIGHT	mm/in	260 / 10.2				
			WIDTH	mm/in	899 / 35.4				
			DEPTH	mm/in	198 / 7.8				
	WEIGHT			kg	12				
	SOUND PRESSURE LEVEL (H/M/L)			dBA	39 / 34 / 28		39 / 34 /28	42/36/29	42/36/29
	CONTROL		ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT				
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)				
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL				
	CONDENSATE DRAIN SIZE			mm/in	16 / 0.63				
	AIR FILTER				WASHABLE SARANET				
	PACKING DIMENSION		HEIGHT	mm/in	337 / 13.3				
			WIDTH	mm/in	957 / 37.7				
			DEPTH	mm/in	270 / 10.6				
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY				
		NUMBER			2				
		CAPACITOR		μF	30		30	30	30
		LOCK ROTOR AMP		A	20		20	25	25
		PROTECTION DEVICE			OVERLOAD PROTECTION				
	FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT				
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN				
		DIAMETER		mm/in	420 / 16.5				
		RATED RUNNING CURRENT		A	0.66 / 0.80				
		RATED OUTPUT POWER		W	80 / 80				
		RATED INPUT POWER		W	152 / 178				
		AIR FLOW		CFM/LPS	1400 / 660.8				
	COIL	TUBE	MATERIAL		SEAMLESS COPPER		SEAMLESS INNER GROOVED COPPER		
			DIAMETER	mm/in	9.52 / 3/8				
			THICKNESS	mm/in	0.35 / 0.014		0.33 / 0.013		
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)				
			THICKNESS	mm/in	0.12 / 0.005				
			ROW		2				
			FIN PER INCH		14		16		
		FACE AREA		m^2/ft^2	0.51 / 5.53				
	DIMENSION		HEIGHT	mm/in	646 / 25.4				
			WIDTH	mm/in	840 / 33.1				
			DEPTH	mm/in	330 / 13				
	WEIGHT			kg	62		63		64
	SOUND PRESSURE LEVEL			dBA	56				
	CASING		MATERIAL		GALVANISED MILD STEEL				
			THICKNESS	mm/in	0.8 / 0.031				
			FINISHING		EPOXY-POLYESTER POWDER				
	PIPE	TYPE			FLARE VALVE				
		SIZE	LIQUID	mm/in	6.35 / 1/4				
			GAS	mm/in	9.52 / 3/8		9.52 / 3/8	12.7 / 1/2	12.7 / 1/2
	PACKING DIMENSION		HEIGHT	mm/in	710 / 28.0				
			WIDTH	mm/in	982 / 38.7				
			DEPTH	mm/in	461 / 18.1				
	REFRIGERANT CHARGE			kg	2 x 0.825		0.825	0.850	2 x 0.85

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMSD SERIES COOLING ONLY

MODEL		OUTDOOR UNIT			MMSD1020A		MMSD1520A		MMSD2020A	
		INDOOR UNIT			MWMS010G	MWMS020G	MWMS015G	MWMS020G	MWMS020G	MWMS020G
NOMINAL COOLING CAPACITY		ONE / TWO UNIT RUNNING		kcal/h	2,394	4,536	3,200	4,536	4,536	
				W	2,784	5,275	3,721	5,275	5,275	
				Btu/h	9,500	18,000	12,700	18,000	18,000	
RATED POWER CONSUMPTION		ONE UNIT RUNNING		W	1,018	2,076	1,459	2,076	2,076	2,076
		TWO UNITS RUNNING		W	3,059		3,364		4,574	
RATED RUNNING CURRENT		ONE UNIT RUNNING		A	4.47	10.20	6.43	10.20	10.20	10.20
		TWO UNITS RUNNING		A	14.4		16.2		21.9	
POWER SOURCE				V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL					R 22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6	510 / 240.72	345 / 162.82	510 / 240.72	510 / 240.72	
			MEDIUM	CFM/LPS	250 / 117.99	440 / 207.7	285 / 134.51	440 / 207.7	440 / 207.7	
			LOW	CFM/LPS	200 / 94.39	370 / 174.6	220 / 103.83	370 / 174.6	370 / 174.6	
		FAN MOTOR			4 POLES X 9W	4 POLES X 20W	4 POLES X 13W	4 POLES X 20W	4 POLES X 20W	
		RATED INPUT POWER		W	26	50	29	50	50	
		RATED RUNNING CURRENT		A	0.11	0.22	0.13	0.22	0.22	
		FAN MOTOR PROTECTION			THERMAL OVERLOAD RELAY					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	7.0 / 0.276					
			THICKNESS	mm/in	0.28 / 0.011					
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS	mm/in	0.11 / 0.0043					
			ROW		2					
			FIN PER INCH		18					
		FACE AREA		m^2/ft^2	0.234 / 2.516	0.269 / 2.900	0.234 / 2.516	0.269 / 2.900	0.269 / 2.900	
		DIMENSION	HEIGHT	mm/in	260 / 10.2	306 / 12.0	260 / 10.2	306 / 12.0	306 / 12.0	
			WIDTH	mm/in	899 / 35.4	1062 / 41.8	899 / 35.4	1062 / 41.8	1062 / 41.8	
			DEPTH	mm/in	198 / 7.8	222 / 8.7	198 / 7.8	222 / 8.7	222 / 8.7	
		WEIGHT		kg	12	16	12	16	16	
		SOUND PRESSURE LEVEL (H/M/L)		dBA	39 / 34 / 28	44 / 40 / 35	42 / 36 / 29	44 / 40 / 35	44 / 40 / 35	
		CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
		CONDENSATE DRAIN SIZE		mm/in	16 / 0.63	20 / 0.79	16 / 0.63	20 / 0.79	20 / 0.79	
		AIR FILTER			WASHABLE SARANET					
		PACKING DIMENSION	HEIGHT	mm/in	337 / 13.3	378 / 14.9	337 / 13.3	378 / 14.9	378 / 14.9	
			WIDTH	mm/in	957 / 37.7	1130 / 44.5	957 / 37.7	1130 / 44.5	1130 / 44.5	
			DEPTH	mm/in	270 / 10.6	292 / 11.5	270 / 10.6	292 / 11.5	292 / 11.5	
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY					
		NUMBER			2					
		CAPACITOR		µF	30	45	30	45	45	
		LOCK ROTOR AMP		A	20	56	25	56	56	
		PROTECTION DEVICE			OVERLOAD PROTECTION					
	FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT					
		BLADE MATERIAL			ALUMINIUM ALLOY WITH ELECTRO- DEPOSITED EPOXY &				GLASS REINFORCED ACRLY	
		DIAMETER		mm/in	457.2 / 18				482.6 / 19	
		RATED RUNNING CURRENT		A	0.61				0.93	
		RATED OUTPUT POWER		W	50				150	
		RATED INPUT POWER		W	137				214	
		AIR FLOW		CFM/LPS	1400 / 660.8	2400 / 1132.8	1400 / 660.8	2400 / 1132.8	2400 / 1132.8	
	COIL	TUBE	MATERIAL		SEAMLESS COPPER					
			DIAMETER	mm/in	9.52 / 3/8					
			THICKNESS	mm/in	0.35 / 0.014					
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)					
			THICKNESS	mm/in	0.12 / 0.005					
			ROW		3					
			FIN PER INCH		14					
		FACE AREA		m^2/ft^2	0.586 / 6.31					
		DIMENSION	HEIGHT	mm/in	631.7 / 24.9					
			WIDTH	mm/in	960 / 37.8					
			DEPTH	mm/in	437 / 17.2					
		WEIGHT		kg	95		99		106	
		SOUND PRESSURE LEVEL		dBA	59		59		61	
		CASING	MATERIAL		GALVANISED MILD STEEL					
			THICKNESS	mm/in	1.0 - 1.2 / 0.039- 0.047					
			FINISHING		EPOXY-POLYESTER POWDER					
	PIPE	TYPE			FLARE VALVE / FITTING					
		SIZE	LIQUID	mm/in	6.35 / 1/4					
			GAS	mm/in	9.52 / 3/8	15.88 / 5/8	12.70 / 1/2	15.88 / 5/8	15.88 / 5/8	
		PACKING DIMENSION	HEIGHT	mm/in	824 / 32.4					
			WIDTH	mm/in	1194 / 47.0					
			DEPTH	mm/in	611 / 24.1					
		REFRIGERANT CHARGE		kg	1.100	1.600	1.100	1.600	2 x 1.450	

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4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
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MMSD SERIES HEATPUMP UNIT

MODEL		OUTDOOR UNIT		MMSD1010AR		MMSD1015AR		MMSD1515AR	
		INDOOR UNIT		MWMS010GR	MWMS010GR	MWMS010GR	MWMS015GR	MWMS015GR	MWMS015GR
NOMINAL COOLING CAPACITY		ONE / TWO UNIT RUNNING	kcal/h	2343 / 2293		2343 / 2293	3024 / 2898	3024 / 2898	
			W	2726 / 2667		2726 / 2667	3517 / 3370	3517 / 3370	
			Btu/h	9300 / 9100		9300 / 9100	12000 / 11500	12000 / 11500	
NOMINAL HEATING CAPACITY		ONE / TWO UNIT RUNNING	kcal/h	2746 / 2696		2746 / 2696	3276 / 3024	3276 / 3024	
			W	3195 / 3136		3195 / 3136	3810 / 3517	3810 / 3517	
			Btu/h	10900 / 10700		10900 / 10700	13000 / 12000	13000 / 12000	
RATED POWER CONSUMPTION (COOLING)		ONE UNIT RUNNING	W	1,000	1,000	1,000	1,240	1,240	1,240
		TWO UNITS RUNNING	W	1,860		2,118		2,480	
RATED POWER CONSUMPTION (HEATING)		ONE UNIT RUNNING	W	1,160	1,160	1,160	1,358	1,358	1,358
		TWO UNITS RUNNING	W	2,070		2,212		2,458	
RATED RUNNING CURRENT (COOLING)		ONE UNIT RUNNING	A	4.50	4.50	4.50	5.59	5.59	5.59
		TWO UNITS RUNNING	A	8.32		9.52		11.22	
RATED RUNNING CURRENT (HEATING)		ONE UNIT RUNNING	A	5.10	5.10	5.10	6.05	6.05	6.05
		TWO UNITS RUNNING	A	9.14		9.92		11.08	
POWER SOURCE			V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL				R22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE		ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6		300 / 141.6	345 / 162.82	345 / 162.82
			MEDIUM	CFM/LPS	250 / 117.99		250 / 117.99	285 / 134.51	285 / 134.51
			LOW	CFM/LPS	200 / 94.39		200 / 94.39	220 / 103.83	220 / 103.83
		FAN MOTOR			4 POLES X 9W			4 POLES X 13W	
		RATED INPUT POWER		W	26		26	29	29
		RATED RUNNING CURRENT		A	0.11		0.11	0.13	0.13
		FAN MOTOR PROTECTION			THERMAL OVERLOAD RELAY				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	7.0 / 0.276				
			THICKNESS	mm/in	0.28 / 0.011				
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)				
			THICKNESS	mm/in	0.11 / 0.0043				
			ROW		2				
			FIN PER INCH		18				
		FACE AREA		m^2/ft^2	0.234 / 2.516				
		DIMENSION	HEIGHT	mm/in	260 / 10.2				
			WIDTH	mm/in	899 / 35.4				
			DEPTH	mm/in	198 / 7.8				
		WEIGHT		kg	12				
		SOUND PRESSURE LEVEL (H/M/L)		dBA	39 / 34 / 28		39 / 34 /28	42 / 36 / 29	42 / 36 / 29
		CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT				
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)				
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL				
		CONDENSATE DRAIN SIZE		mm/in	16 / 0.63				
		AIR FILTER			WASHABLE SARANET				
		PACKING DIMENSION	HEIGHT	mm/in	337 / 13.3				
			WIDTH	mm/in	957 / 37.7				
			DEPTH	mm/in	270 / 10.6				
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY				
		NUMBER			2				
		CAPACITOR		µF	30		30	30	30
		LOCK ROTOR AMP		A	20		20	25	25
		PROTECTION DEVICE			OVERLOAD PROTECTION				
	FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT				
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN				
		DIAMETER		mm/in	420 / 16.5				
		RATED RUNNING CURRENT		A	0.7				
		RATED OUTPUT POWER		W	80				
		RATED INPUT POWER		W	170				
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	9.52 / 3/8				
			THICKNESS	mm/in	0.33 / 0.013				
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)				
			THICKNESS	mm/in	0.12 / 0.005				
			ROW		2				
			FIN PER INCH		16				
		FACE AREA		m^2/ft^2	0.51 / 5.53				
		DIMENSION	HEIGHT	mm/in	646 / 25.4				
			WIDTH	mm/in	840 / 33.1				
			DEPTH	mm/in	330 / 13				
		WEIGHT		kg	63		64		65
		SOUND PRESSURE LEVEL		dBA	56				
		CASING	MATERIAL		GALVANISED MILD STEEL				
			THICKNESS	mm/in	0.8 / 0.031				
			FINISHING		EPOXY-POLYESTER POWDER				
		PIPE	TYPE		FLARE VALVE				
			SIZE	LIQUID	mm/in	6.35 / 1/4			
				GAS	mm/in	9.52 / 3/8	9.52 / 3/8	12.7 / 1/2	12.7 / 1/2
		PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0				
			WIDTH	mm/in	982 / 38.7				
			DEPTH	mm/in	461 / 18.1				
		REFRIGERANT CHARGE		kg	2 x 0.775		0.775	0.900	2 x 0.900

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMSD SERIES HEATPUMP UNIT

MODEL			**OUTDOOR UNIT**		**MMSD1520AR**	
			INDOOR UNIT		**MWMS015GR**	**MWMS020GR**
NOMINAL COOLING CAPACITY			**ONE / TWO UNIT RUNNING**	**kcal/h**	2898 / 2772	4536 / 4536
				W	3370 / 3224	5275 / 5275
				Btu/h	11500 / 11000	18000 / 18000
NOMINAL HEATING CAPACITY			**ONE / TWO UNIT RUNNING**	**kcal/h**	3175 / 3024	5040 / 4914
				W	3693 / 3517	5862 / 5715
				Btu/h	12600 / 12000	20000 / 19500
RATED POWER CONSUMPTION (COOLING)			**ONE UNIT RUNNING**	**W**	1,345	2,195
			TWO UNITS RUNNING	**W**	3,460	
RATED POWER CONSUMPTION (HEATING)			**ONE UNIT RUNNING**	**W**	1,378	2,412
			TWO UNITS RUNNING	**W**	3,475	
RATED RUNNING CURRENT (COOLING)			**ONE UNIT RUNNING**	**A**	5.99	11.86
			TWO UNITS RUNNING	**A**	17.41	
RATED RUNNING CURRENT (HEATING)			**ONE UNIT RUNNING**	**A**	6.19	12.96
			TWO UNITS RUNNING	**A**	17.61	
POWER SOURCE				**V/Ph/Hz**	220 ~ 240 / 1 / 50	
REFRIGERANT / CONTROL					R22 / OUTDOOR CAPILLARY TUBE	
INDOOR UNIT	**FAN**	**FAN TYPE**			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT	
		AIR FLOW	**HIGH**	**CFM/LPS**	345 / 162.82	510 / 240.72
			MEDIUM	**CFM/LPS**	285 / 134.51	440 / 207.7
			LOW	**CFM/LPS**	220 / 103.83	370 / 174.6
		FAN MOTOR			4 POLES X 13W	4 POLES X 20W
		RATED INPUT POWER		**W**	29	50
		RATED RUNNING CURRENT		**A**	0.13	0.22
		FAN MOTOR PROTECTION			THERMAL OVERLOAD RELAY	
	COIL	**TUBE**	**MATERIAL**		SEAMLESS INNER GROOVED COPPER	
			DIAMETER	**mm/in**	7.0 / 0.276	
			THICKNESS	**mm/in**	0.28 / 0.011	
		FIN	**MATERIAL**		ALUMINIUM (HYDROPHILIC SLIT FIN)	
			THICKNESS	**mm/in**	0.11 / 0.0043	
			ROW		2	
			FIN PER INCH		18	
		FACE AREA		**m^2/ft^2**	0.234 / 2.516	0.269 / 2.900
	DIMENSION		**HEIGHT**	**mm/in**	260 / 10.2	306 / 12.0
			WIDTH	**mm/in**	899 / 35.4	1062 / 41.8
			DEPTH	**mm/in**	198 / 7.8	222 / 8.7
	WEIGHT			**kg**	12	16
	SOUND PRESSURE LEVEL (H/M/L)			**dBA**	42 / 36 / 29	44 / 40 / 35
	CONTROL		**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT	
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)	
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL	
	CONDENSATE DRAIN SIZE			**mm/in**	16 / 0.63	20 / 0.79
	AIR FILTER				WASHABLE SARANET	
	PACKING DIMENSION		**HEIGHT**	**mm/in**	337 / 13.3	378 / 14.9
			WIDTH	**mm/in**	957 / 37.7	1130 / 4.5
			DEPTH	**mm/in**	270 / 10.6	292 / 11.5
OUTDOOR UNIT	**COMP**	**COMPRESSOR TYPE**			ROTARY	
		NUMBER			2	
		CAPACITOR		**μF**	30	45
		LOCK ROTOR AMP		**A**	25	56
		PROTECTION DEVICE			OVERLOAD PROTECTION	
	FAN	**FAN TYPE / DRIVE**			PROPELLER/DIRECT	
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN	
		DIAMETER		**mm/in**	482.6 / 19	
		RATED RUNNING CURRENT		**A**	0.92	
		RATED OUTPUT POWER		**W**	150	
		RATED INPUT POWER		**W**	215	
	COIL	**TUBE**	**MATERIAL**		SEAMLESS INNER GROOVED COPPER	
			DIAMETER	**mm/in**	9.52 / 3/8	
			THICKNESS	**mm/in**	0.33 / 0.013	
		FIN	**MATERIAL**		ALUMINIUM (SLIT FIN TYPE)	
			THICKNESS	**mm/in**	0.12 / 0.005	
			ROW		3	
			FIN PER INCH		14	
		FACE AREA		**m^2/ft^2**	0.50 / 5.39	
	DIMENSION		**HEIGHT**	**mm/in**	631.7 / 24.9	
			WIDTH	**mm/in**	960.0 / 37.8	
			DEPTH	**mm/in**	437.0 / 17.2	
	WEIGHT			**kg**	100	
	SOUND PRESSURE LEVEL			**dBA**	61	
	CASING		**MATERIAL**		GALVANISED MILD STEEL	
			THICKNESS	**mm/in**	0.8 / 0.031	
			FINISHING		EPOXY-POLYESTER POWDER	
	PIPE	**TYPE**			FLARE VALVE	
		SIZE	**LIQUID**	**mm/in**	6.35 / 1/4	
			GAS	**mm/in**	12.70 / 1/2	15.88 / 5/8
	PACKING DIMENSION		**HEIGHT**	**mm/in**	813 / 32.0	
			WIDTH	**mm/in**	1144 / 45.0	
			DEPTH	**mm/in**	611 / 24.1	
	REFRIGERANT CHARGE			**kg**	0.925	1.650

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

M4MSD SERIES COOLING ONLY

MODEL			INDOOR UNIT		M4MSD1010A		M4MSD1015A		M4MSD1515A	
			OUTDOOR UNIT		MWMS010G	MWMS010G	MWMS010G	MWMS015G	MWMS015G	MWMS015G
NOMINAL COOLING CAPACITY			ONE / TWO UNIT RUNNING	kcal/h	2,268		2,268	3,024	3,024	
				W	2,638		2,638	3,517	3,517	
				Btu/h	9,000		9,000	12,000	12,000	
RATED POWER CONSUMPTION			ONE UNIT RUNNING	W	1,035	1,035	1,035	1,566	1,566	1,566
			TWO UNITS RUNNING	W	1,900		2,435		2,966	
RATED RUNNING CURRENT			ONE UNIT RUNNING	A	4.40	4.40	4.40	7.00	7.00	7.00
			TWO UNITS RUNNING	A	8.10		10.70		13.34	
POWER SOURCE				V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL					R407C / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6		300 / 141.6	345 / 162.82	345 / 162.82	
			MEDIUM	CFM/LPS	250 / 117.99		250 / 117.99	285 / 134.51	285 / 134.51	
			LOW	CFM/LPS	200 / 94.39		200 / 94.39	220 / 103.83	220 / 103.83	
		FAN MOTOR			4 POLES X 9W			4 POLES X 13W		
		RATED INPUT POWER		W	26		26	29	29	
		RATED RUNNING CURRENT		A	0.11		0.11	0.13	0.13	
		FAN MOTOR PROTECTION			THERMAL OVERLOAD RELAY					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	7.0 / 0.276					
			THICKNESS	mm/in	0.28 / 0.011					
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS	mm/in	0.11 / 0.0043					
			ROW		2					
			FIN PER INCH		18					
		FACE AREA		m^2/ft^2	0.234 / 2.516					
		DIMENSION	HEIGHT	mm/in	260 / 10.2					
			WIDTH	mm/in	899 / 35.4					
			DEPTH	mm/in	198 / 7.8					
		WEIGHT		kg	12					
		SOUND PRESSURE LEVEL (H/M/L)		dBA	39 / 34 / 28		39 / 34 /28	42 / 36 / 29	42 / 36 / 29	
		CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
		CONDENSATE DRAIN SIZE		mm/in	16 / 0.63					
		AIR FILTER			WASHABLE SARANET					
		PACKING DIMENSION	HEIGHT	mm/in	337 / 13.3					
			WIDTH	mm/in	957 / 37.7					
			DEPTH	mm/in	270 / 10.6					
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY					
		NUMBER			2					
		CAPACITOR		μF	30		30	30	30	
		LOCK ROTOR AMP		A	20		20	32	32	
		PROTECTION DEVICE			OVERLOAD PROTECTION					
	FAN	FAN TYPE / DRIVE			PROPELLER/DIRECT					
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN					
		DIAMETER		mm/in	406 / 16					
		RATED RUNNING CURRENT		A	0.72					
		RATED OUTPUT POWER		W	80					
		RATED INPUT POWER		W	170					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	9.52 / 3/8					
			THICKNESS	mm/in	0.33 / 0.013					
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)					
			THICKNESS	mm/in	0.12 / 0.005					
			ROW		2					
			FIN PER INCH		16					
		FACE AREA		m^2/ft^2	0.51 / 5.53					
		DIMENSION	HEIGHT	mm/in	646 / 25.4					
			WIDTH	mm/in	840 / 33.1					
			DEPTH	mm/in	330 / 13					
		WEIGHT		kg	62		63		64	
		SOUND PRESSURE LEVEL		dBA	54					
		CASING	MATERIAL		GALVANISED MILD STEEL					
			THICKNESS	mm/in	0.8 / 0.031					
			FINISHING		EPOXY-POLYESTER POWDER					
		PIPE	TYPE		FLARE VALVE					
			SIZE	LIQUID mm/in	6.35 / 1/4					
				GAS mm/in	9.52 / 3/8		9.52 / 3/8	12.7 / 1/2	12.7 / 1/2	
		PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0					
			WIDTH	mm/in	982 / 38.7					
			DEPTH	mm/in	461 / 18.1					
		REFRIGERANT CHARGE		kg	2 x 0.750		0.750	0.800	2 x 0.800	

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a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
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M4MSD SERIES HEATPUMP UNIT

MODEL				M4MSD1010AR		M4MSD1015AR		M4MSD1515AR	
	OUTDOOR UNIT								
	INDOOR UNIT			MWMS010GR	MWMS010GR	MWMS010GR	MWMS015GR	MWMS015GR	MWMS015GR
NOMINAL COOLING CAPACITY	ONE / TWO UNIT RUNNING		kcal/h	2268 / 2268		2268 / 2268	2772 / 2646	2772 / 2646	
			W	2638 / 2268		2638 / 2638	3224 / 3077	3224 / 3077	
			Btu/h	9000 / 9000		9000 / 9000	11000 / 11500	11000 / 11500	
NOMINAL HEATING CAPACITY	ONE / TWO UNIT RUNNING		kcal/h	2394 / 2668		2394 / 2668	3024 / 2898	3024 / 2898	
			W	2784 / 2638		2784 / 2638	3517 / 3370	3517 / 3370	
			Btu/h	9500 / 9000		9500 / 9000	12000 / 11500	12000 / 11500	
RATED POWER CONSUMPTION (COOLING)	ONE UNIT RUNNING		W	994	994	994	1466	1466	1466
	TWO UNITS RUNNING		W	1,800		2,139		2,478	
RATED POWER CONSUMPTION (HEATING)	ONE UNIT RUNNING		W	992	992	992	1476	1476	1476
	TWO UNITS RUNNING		W	1,690		2,044		2,398	
RATED RUNNING CURRENT (COOLING)	ONE UNIT RUNNING		A	4.21	4.21	4.21	6.71	6.71	6.71
	TWO UNITS RUNNING		A	7.60		9.52		11.24	
RATED RUNNING CURRENT (HEATING)	ONE UNIT RUNNING		A	4.21	4.21	4.21	6.71	6.71	6.71
	TWO UNITS RUNNING		A	7.20		9.22		11.04	
POWER SOURCE			V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT / CONTROL				R407C / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN TYPE			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
	FAN AIR FLOW	HIGH	CFM/LPS	300 / 141.6		300 / 141.6	345 / 162.82	345 / 162.82	
		MEDIUM	CFM/LPS	250 / 117.99		250 / 117.99	285 / 134.51	285 / 134.51	
		LOW	CFM/LPS	200 / 94.39		200 / 94.39	220 / 103.83	220 / 103.83	
	FAN MOTOR			4 POLES X 9W			4 POLES X 13W		
	RATED INPUT POWER		W	26		26	29	29	
	RATED RUNNING CURRENT		A	0.11		0.11	0.13	0.13	
	FAN MOTOR PROTECTION			THERMAL OVERLOAD RELAY					
	COIL TUBE MATERIAL			SEAMLESS INNER GROOVED COPPER					
	COIL TUBE DIAMETER		mm/in	7.0 / 0.276					
	COIL TUBE THICKNESS		mm/in	0.28 / 0.011					
	COIL FIN MATERIAL			ALUMINIUM (HYDROPHILIC SLIT FIN)					
	COIL FIN THICKNESS		mm/in	0.11 / 0.0043					
	COIL FIN ROW			2					
	COIL FIN PER INCH			18					
	FACE AREA		m^2/ft^2	0.234 / 2.516					
	DIMENSION	HEIGHT	mm/in	260 / 10.2					
		WIDTH	mm/in	899 / 35.4					
		DEPTH	mm/in	198 / 7.8					
	WEIGHT		kg	12					
	SOUND PRESSURE LEVEL (H/M/L)		dBA	39 / 34 / 28		39 / 34 /28	42 / 36 / 29	42 / 36 / 29	
	CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
		AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
		OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
	CONDENSATE DRAIN SIZE		mm/in	16 / 0.63					
	AIR FILTER			WASHABLE SARANET					
	PACKING DIMENSION	HEIGHT	mm/in	337 / 13.3					
		WIDTH	mm/in	957 / 37.7					
		DEPTH	mm/in	270 / 10.6					
OUTDOOR UNIT	COMP TYPE			ROTARY					
	COMP NUMBER			2					
	COMP CAPACITOR		μF	30		30	30	30	
	COMP LOCK ROTOR AMP		A	20		20	32	32	
	PROTECTION DEVICE			OVERLOAD PROTECTION					
	FAN TYPE / DRIVE			PROPELLER/DIRECT					
	FAN BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN					
	FAN DIAMETER		mm/in	406 / 16					
	FAN RATED RUNNING CURRENT		A	0.72					
	FAN RATED OUTPUT POWER		W	80					
	FAN RATED INPUT POWER		W	170					
	COIL TUBE MATERIAL			SEAMLESS INNER GROOVED COPPER					
	COIL TUBE DIAMETER		mm/in	9.52 / 3/8					
	COIL TUBE THICKNESS		mm/in	0.33 / 0.013					
	COIL FIN MATERIAL			ALUMINIUM (SLIT FIN TYPE)					
	COIL FIN THICKNESS		mm/in	0.12 / 0.005					
	COIL FIN ROW			2					
	COIL FIN PER INCH			16					
	FACE AREA		m^2/ft^2	0.51 / 5.53					
	DIMENSION	HEIGHT	mm/in	646 / 25.4					
		WIDTH	mm/in	840 / 33.1					
		DEPTH	mm/in	330 / 13					
	WEIGHT		kg	63		64		65	
	SOUND PRESSURE LEVEL		dBA	54					
	CASING	MATERIAL		GALVANISED MILD STEEL					
		THICKNESS	mm/in	0.8 / 0.031					
		FINISHING		EPOXY-POLYESTER POWDER					
	PIPE TYPE			FLARE VALVE					
	PIPE SIZE	LIQUID	mm/in	6.35 / 1/4					
		GAS	mm/in	9.52 / 3/8		9.52 / 3/8	12.7 / 1/2	12.7 / 1/2	
	PACKING DIMENSION	HEIGHT	mm/in	710 / 28.0					
		WIDTH	mm/in	982 / 38.7					
		DEPTH	mm/in	461 / 18.1					
	REFRIGERANT CHARGE		kg	2 x 0.725		0.750	0.800	2 x 0.800	

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b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
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MMST SERIES COOLING ONLY

MODEL		**OUTDOOR UNIT**			MMST101010A	MMST101015A		MMST101515A		MMST151515A	MMST101020A		
		INDOOR UNIT			3 x MWMS010G	2 x MWMS010G	MWMS015G	MWMS010G	2 x MWMS015G	3 x MWMS015G	2 x MWMS010G	MWMS020G	
NOMINAL				**kcal/h**	3 x 2,394	2 x 2,394	3,200	2,394	2 x 3,200	3 x 3,200	2 x 2,394	4,536	
COOLING				**W**	3 x 2,784	2 x 2,784	3,721	2,784	2 x 3,721	3 x 3,721	2 x 2,784	5,275	
CAPACITY				**Btu/h**	3 x 9,500	2 x 9,500	12,700	9,500	2 x 12,700	3 x 12,700	2 x 9,500	18,000	
RATED TOTAL POWER CONSUMPTION				**W**	2,685	3,142		3,665		4,188	4,041		
RATED TOTAL RUNNING CURRENT				**A**	12.6	14.5		16.3		18.4	18.1		
POWER SOURCE				**V/Ph/Hz**	220 ~ 240 / 1 / 50								
REFRIGERANT / CONTROL					R22 / OUTDOOR CAPILLARY TUBE								
INDOOR UNIT	**FAN**	**FAN TYPE**			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT								
		AIR FLOW	**HIGH**	**CFM/LPS**	300 / 141.6	300 / 141.6	345 / 162.82	300 / 141.6	345 / 162.82	345 / 162.82	300 / 141.6	510 / 240.72	
			MEDIUM	**CFM/LPS**	250 / 117.99	250 / 117.99	285 / 134.51	250 / 117.99	285 / 134.51	285 / 134.51	250 / 117.99	440 / 207.7	
			LOW	**CFM/LPS**	200 / 94.39	200 / 94.39	220 / 103.83	200 / 94.39	220 / 103.83	220 / 103.83	200 / 94.39	370 / 174.6	
		FAN MOTOR			4 POLES x 9W		4 POLES x 13W	4 POLES x 9W	4 POLES x 13W		4 POLES x 9W	4 POLES x 20W	
		INPUT POWER		**W**	26	26	29	26	29	29	26	50	
		RUNNING CURRENT		**A**	0.11	0.11	0.13	0.11	0.13	0.13	0.11	0.22	
		FAN MOTOR PROTECTION											
	COIL	**TUBE**	**MATERIAL**		SEAMLESS INNER GROOVED COPPER								
			DIAMETER	**mm/in**	7.0 / 0.276								
			THICKNESS	**mm/in**	0.28 / 0.011								
		FIN	**MATERIAL**		ALUMINIUM (HYDROPHILIC SLIT FIN)								
			THICKNESS	**mm/in**	0.11 / 0.0043								
			ROW		2								
			FIN PER INCH		18								
		FACE AREA		**m^2/ft^2**	0.234 / 2.516							0.269 / 2.900	
		DIMENSION	**HEIGHT**	**mm/in**	260 / 10.2							306 / 12.0	
			WIDTH	**mm/in**	899 / 35.4							1062 / 41.8	
			DEPTH	**mm/in**	198 / 7.8							222 / 8.7	
	WEIGHT			**kg**	12							16	
	SOUND PRESSURE LEVEL (H/M/L)			**dBA**	39 / 34 / 28		42 / 36 / 29	39 / 34 / 28	42 / 36 / 29	42 / 36 / 29	39 / 34 / 28	44 / 40 /35	
	CONTROL		**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT								
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)								
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL								
	CONDENSATE DRAIN SIZE			**mm/in**	16 / 0.63							20 / 0.79	
	AIR FILTER				WASHABLE SARANET								
	PACKING DIMENSION		**HEIGHT**	**mm/in**	337 / 13.3							378 / 14.9	
			WIDTH	**mm/in**	957 / 37.7							1130 / 44.5	
			DEPTH	**mm/in**	270 / 10.6							292 / 11.5	
OUTDOOR UNIT	**COMP**	**COMPRESSOR TYPE**			ROTARY								
		NUMBER			3								
		CAPACITOR		**μF**	30 / 30							40 / -	
		LOCK ROTOR AMP		**A**	20 / 26	20 / 26	25 / 33	20 / 26	25 / 33	25 / 33	20 / -	47 / -	
		INPUT POWER		**W**	823	823	1263	823	1263	1263	823	1971	
		PROTECTION DEVICE			OVERLOAD PROTECTION								
	FAN	**FAN TYPE / DRIVE**			PROPELLER / DIRECT								
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN								
		DIAMETER		**mm/in**	486.2 / 19								
		RATED RUNNING CURRENT		**A**	0.92 / 1.41							0.92 / -	
		RATED OUTPUT POWER		**W**	150 / 166							150 / -	
		RATED INPUT POWER		**W**	215 / 291							215 / -	
		AIR FLOW		**CFM/LPS**	2400 / 1133								
	COIL	**TUBE**	**MATERIAL**		SEAMLESS COPPER						SEAMLESS INNER GROOVED COPPER		
			DIAMETER	**mm/in**	0.95 / 3/8								
			THICKNESS	**mm/in**	0.35 / 0.014						0.33 / 0.013		
		FIN	**MATERIAL**		ALUMINIUM (SLIT FIN TYPE)								
			THICKNESS	**mm/in**	0.12 / 0.005								
			ROW		3								
			FIN PER INCH		14								
		FACE AREA		**m^2/ft^2**	0.50 / 5.39								
	DIMENSION		**HEIGHT**	**mm/in**	631.7 / 24.9								
			WIDTH	**mm/in**	960 / 37.8								
			DEPTH	**mm/in**	437 / 17.2								
	WEIGHT			**kg**	97	101		105		109	104		
	SOUND PRESSURE LEVEL			**dBA**	61	61		62		62	61		
	CASING		**MATERIAL**		GALVANISED MILD STEEL								
			THICKNESS	**mm/in**	1.0 - 1.2 / 0.039 - 0.047								
			FINISHING		EPOXY POLYESTER POWDER								
	PIPE	**TYPE**			FLARE VALVE								
		SIZE	**LIQUID**	**mm/in**	6.35 / 1/4								
			GAS	**mm/in**	9.52 / 3/8	9.52 / 3/8	12.7 / 1/2	9.52 / 3/8	12.7 / 1/2	12.7 / 1/2	9.52 / 3/8	15.88 / 5/8	
	PACKING DIMENSION		**HEIGHT**	**mm/in**	824 / 32.4								
			WIDTH	**mm/in**	1,194 / 47.0								
			DEPTH	**mm/in**	611 / 24.1								
	REFRIGERANT CHARGE			**kg**	3 x 0.800	2 x 0.800	0.825	0.800	2 x 0.825	3 x 0.825	3 x 0.650	1.075	

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a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

MMST SERIES COOLING ONLY

MODEL		**OUTDOOR UNIT**			MMST101025A		MMST101525A			MMST151525A	
		INDOOR UNIT			2 x MWMS010G	MWMS025G	MWMS010G	MWMS015G	MWMS025G	2 x MWMS015G	MWMS025G
NOMINAL				**kcal/h**	2 x 2,394	5,796	2,394	3,024	5,796	2 x 3024	5,796
COOLING				**W**	2 x 2,784	6,741	2,784	3,517	6,741	2 x 3517	6,741
CAPACITY				**Btu/h**	2 x 9,500	23,000	9,500	12,000	23,000	2 x 12000	23,000
RATED TOTAL POWER CONSUMPTION				**W**	4,280		4,790			5,300	
RATED TOTAL RUNNING CURRENT				**A**	20.2		22.7			25.1	
POWER SOURCE				**V/Ph/Hz**	220 ~ 240 / 1 / 50						
REFRIGERANT / CONTROL					R22 / OUTDOOR CAPILLARY TUBE						
INDOOR UNIT	**FAN**	**FAN TYPE**			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT						
		AIR FLOW	**HIGH**	**CFM/LPS**	300 / 141.6	650 / 306.77	300 / 141.6	345 / 162.82	650 / 306.77	345 / 162.82	650 / 306.77
			MEDIUM	**CFM/LPS**	250 / 117.99	500 / 235.97	250 / 117.99	285 / 134.51	500 / 235.97	285 / 134.51	500 / 235.97
			LOW	**CFM/LPS**	200 / 94.39	450 / 212.38	200 / 94.39	220 / 103.83	450 / 212.38	220 / 103.83	450 / 212.38
		FAN MOTOR			4 POLES x 9W	4P x 25W	4 POLES x 9W	4P x 13W	4P x 25W	4P x 13W	4P x 25W
		INPUT POWER		**W**	26	69	26	29	69	29	69
		RUNNING CURRENT		**A**	0.11	0.29	0.11	0.13	0.29	0.13	0.29
		FAN MOTOR PROTECTION			THERMAL OVERLOAD						
	COIL	**TUBE**	**MATERIAL**		SEAMLESS INNER GROOVED COPPER						
			DIAMETER	**mm/in**	7.0 / 0.276						
			THICKNESS	**mm/in**	0.28 / 0.011						
		FIN	**MATERIAL**		ALUMINIUM (HYDROPHILIC SLIT FIN)						
			THICKNESS	**mm/in**	0.11 / 0.0043						
			ROW		2						
			FIN PER INCH		18						
		FACE AREA		**m^2/ft^2**	0.234 / 2.516	0.269 / 2.900	0.234 / 2.516		0.269 / 2.900	0.234 / 2.516	0.269 / 2.900
		DIMENSION	**HEIGHT**	**mm/in**	260 / 10.2	306 / 12.04	260 / 10.2		306 / 12.04	260 / 10.2	306 / 12.04
			WIDTH	**mm/in**	899 / 35.4	1062 / 41.79	899 / 35.4		1062 / 41.79	899 / 35.4	1062 / 41.79
			DEPTH	**mm/in**	198 / 7.8	222 / 8.74	198 / 7.8		222 / 8.74	198 / 7.8	222 / 8.74
	WEIGHT			**kg**	12	16	12		16	12	16
	SOUND PRESSURE LEVEL (H/M/L)			**dBA**	39 / 34 / 28	49 / 43 / 40	39 / 34 / 28	42 / 36 / 29	49 / 43 / 40	42 / 36 / 29	49 / 43 / 40
	CONTROL		**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT						
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)						
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL						
	CONDENSATE DRAIN SIZE			**mm/in**	16 / 0.63	20 / 0.79	16 / 0.63		20 / 0.79	16 / 0.63	20 / 0.79
	AIR FILTER				WASHABLE SARANET						
	PACKING DIMENSION		**HEIGHT**	**mm/in**	337 / 13.3	378 / 14.9	337 / 13.3	337 / 13.3	378 / 14.9	337 / 13.3	378 / 14.9
			WIDTH	**mm/in**	957 / 37.7	1130 / 44.5	957 / 37.7	957 / 37.7	1130 / 44.5	957 / 37.7	1130 / 44.5
			DEPTH	**mm/in**	270 / 10.6	292 / 11.5	270 / 10.6	270 / 10.6	292 / 11.5	270 / 10.6	292 / 11.5
OUTDOOR UNIT	**COMP**	**COMPRESSOR TYPE**			ROTARY						
		NUMBER			3						
		CAPACITOR		**µF**	30 / 30	45	30	30	45	30 / 30	45
		LOCK ROTOR AMP		**A**	20 / 20	62	20	25	62	25 / 25	62
		INPUT POWER		**W**	823	2430	823	1250	2430	1250	2430
		PROTECTION DEVICE			OVERLOAD PROTECTION						
	FAN	**FAN TYPE / DRIVE**			PROPELLER / DIRECT						
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN						
		DIAMETER		**mm/in**	610 / 24						
		RATED RUNNING CURRENT		**A**	1.1						
		RATED OUTPUT POWER		**W**	145						
		RATED INPUT POWER		**W**	241						
	COIL	**TUBE**	**MATERIAL**		SEAMLESS COPPER						
			DIAMETER	**mm/in**	9.52 / 3/8						
			THICKNESS	**mm/in**	0.35 / 0.014						
		FIN	**MATERIAL**		ALUMINIUM (SLIT FIN TYPE)						
			THICKNESS	**mm/in**	0.127 / 0.005						
			ROW		2						
			FIN PER INCH		16						
		FACE AREA		**m^2/ft^2**	0.87 / 9.33						
	DIMENSION		**HEIGHT**	**mm/in**	850 / 33.46						
			WIDTH	**mm/in**	1030 / 40.55						
			DEPTH	**mm/in**	400 / 15.75						
	WEIGHT			**kg**	117		120			123	
	SOUND PRESSURE LEVEL			**dBA**	57						
	CASING		**MATERIAL**		GALVANISED MILD STEEL						
			THICKNESS	**mm/in**	0.8 / 0.031						
			FINISHING		EPOXY POLYESTER POWDER						
	PIPE	**TYPE**			FLARE VALVE						
		SIZE	**LIQUID**	**mm/in**	6.35 / 1/4	9.52 / 3/8	6.35 / 1/4	6.35 / 1/4	9.52 / 3/8	6.35 / 1/4	9.52 / 3/8
			GAS	**mm/in**	9.52 / 3/8	15.88 / 5/8	9.52 / 3/8	12.7 / 1/2	15.88 / 5/8	12.7 / 1/2	15.88 / 5/8
	PACKING DIMENSION		**HEIGHT**	**mm/in**	1000 / 39.37						
			WIDTH	**mm/in**	1200 / 47.24						
			DEPTH	**mm/in**	560 / 22.05						
	REFRIGERANT CHARGE			**kg**	2 x 0.740	1.440	0.740	0.870	1.440	2 x 0.870	1.440

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

M4MST SERIES COOLING ONLY

MODEL			**OUTDOOR UNIT**		M4MST101010A	M4MST101015A		M4MST101515A		M4MST151515A
			INDOOR UNIT		3 x MWMS010G	2 x MWMS010G	MWMS015G	MWMS010G	2 x MWMS015G	3 x MWMS015G
NOMINAL				**kcal/h**	3 x 2268	2 x 2268	3024	2268	2 x 3024	3 x 3024
COOLING				**W**	3 X 2638	2 X 2638	3517	2638	2 x 3517	3 x 3517
CAPACITY				**Btu/h**	3 X 9000	2 X 9000	12000	9000	2 x 12000	3 x 12000
RATED TOTAL POWER CONSUMPTION				**W**	2580	3107		3634		4161
RATED TOTAL RUNNING CURRENT				**A**	11.1	13.8		16.5		19.0
POWER SOURCE				**V/Ph/Hz**	220 ~ 240/1/50					
REFRIGERANT / CONTROL					R407C / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	**FAN**	**FAN TYPE**			ANTI FUNGUS CROSS FLOW TANGENTIAL FAN / DIRECT					
		AIR FLOW	**HIGH**	**CFM/LPS**	300 / 141.6	300 / 141.6	345 / 162.82	300 / 141.6	345 / 162.82	345 / 162.82
			MEDIUM	**CFM/LPS**	250 / 117.99	250 / 117.99	285 / 134.51	250 / 117.99	285 / 134.51	285 / 134.51
			LOW	**CFM/LPS**	200 / 94.39	200 / 94.39	220 / 103.83	200 / 94.39	220 / 103.83	220 / 103.83
		FAN MOTOR			4P x 9W	4P x 9W	4P x 13W	4P x 9W	4P x 13W	4P x 13W
		INPUT POWER		**W**	26	26	29	26	29	29
		RUNNING CURRENT		**A**	0.11	0.11	0.13	0.11	0.13	0.13
		FAN MOTOR PROTECTION			THERMAL OVERLOAD					
	COIL	**TUBE**	**MATERIAL**		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	**mm/in**	7.0 / 0.276					
			THICKNESS	**mm/in**	0.28 / 0.011					
		FIN	**MATERIAL**		ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS	**mm/in**	0.11 / 0.0043					
			ROW		2					
			FIN PER INCH		18					
		FACE AREA		**m^2/ft^2**	0.234 / 2.516					
	DIMENSION		**HEIGHT**	**mm/in**	260 / 10.2					
			WIDTH	**mm/in**	899 / 35.4					
			DEPTH	**mm/in**	198 / 7.8					
	WEIGHT			**kg**	12					
	SOUND PRESSURE LEVEL (H/M/L)			**dBA**	39 / 34 / 28	39 / 34 / 28	42 / 36 / 29	39 / 34 / 28	42 / 36 / 29	42 / 36 / 29
	CONTROL		**ROOM TEMPERATURE**		MICROCOMPUTER CONTROLLED THERMOSTAT					
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
	CONDENSATE DRAIN SIZE			**mm/in**	16 / 0.63					
	AIR FILTER				WASHABLE SARANET					
	PACKING DIMENSION		**HEIGHT**	**mm/in**	337 / 13.3					
			WIDTH	**mm/in**	957 / 37.7					
			DEPTH	**mm/in**	270 / 10.6					
OUTDOOR UNIT	**COMP**	**COMPRESSOR TYPE**			ROTARY					
		NUMBER			3					
		CAPACITOR		**μF**	30					
		LOCK ROTOR AMP		**A**	20	20	25	20	25	25
		INPUT POWER		**W**	758	758	1282	758	1282	1282
		PROTECTION DEVICE			OVERLOAD PROTECTION					
	FAN	**FAN TYPE / DRIVE**			PROPELLER / DIRECT					
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN					
		DIAMETER		**mm/in**	486.2 / 19					
		RATED RUNNING CURRENT		**A**	0.98					
		MOTOR OUTPUT		**W**	150					
		RATED INPUT POWER		**W**	228					
		AIR FLOW		**CFM/LPS**	2400 / 1133					
	COIL	**TUBE**	**MATERIAL**		SEAMLESS COPPER					
			DIAMETER	**mm/in**	9.52 / 3/8					
			THICKNESS	**mm/in**	0.35 / 0.014					
		FIN	**MATERIAL**		ALUMINIUM (SLIT FIN TYPE)					
			THICKNESS	**mm/in**	0.12 / 0.005					
			ROW		3					
			FIN PER INCH		14					
		FACE AREA		**m^2/ft^2**	0.50 / 5.39					
	DIMENSION		**HEIGHT**	**mm/in**	631.7/24.9					
			WIDTH	**mm/in**	960 / 37.8					
			DEPTH	**mm/in**	437 / 17.2					
	WEIGHT			**kg**	97	101		105		109
	SOUND PRESSURE LEVEL			**dBA**	65					
	CASING		**MATERIAL**		GALVANISED MILD STEEL					
			THICKNESS	**mm/in**	1.0 - 1.2 / 0.039 - 0.047					
			FINISHING		EPOXY-POLYESTER POWDER					
	PIPE	**TYPE**			FLARE VALVE					
		SIZE	**LIQUID**	**mm/in**	6.35 / 1/4					
			GAS	**mm/in**	9.52 / 3/8	9.52 / 3/8	12.7 / 1/2	9.52 / 3/8	12.7 / 1/2	12.7 / 1/2
	PACKING DIMENSION		**HEIGHT**	**mm/in**	824 / 32.4					
			WIDTH	**mm/in**	1194 / 47.0					
			DEPTH	**mm/in**	611 / 24.1					
	REFRIGERANT CHARGE			**kg**	3 x 0.750	2 x 0.750	0.775	0.750	2 x 0.775	3 x 0.775

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
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M4MST SERIES HEATPUMP

MODEL			OUTDOOR UNIT		M4MST101010AR	M4MST101015AR		M4MST101515AR		M4MST151515AR
			INDOOR UNIT		3 x MWMS010GR	2 x MWMS010GR	MWMS015GR	MWMS010GR	2 x MWMS015GR	3 x MWMS015GR
NOMINAL				kcal/h	3 x 2268	2 x 2268	3024	2268	2 x 3024	3 x 3024
COOLING				W	3 x 2638	2 x 2638	3517	2638	2 x 3517	3 x 3517
CAPACITY				Btu/h	3 x 9000	2 x 9000	12000	9000	2 x 12000	3 x 12000
NOMINAL				kcal/h	3 x 2268	2 x 2268	2772	2268	2 x 2772	3 x 2772
HEATING				W	3 x 2638	2 x 2638	3224	2638	2 x 3224	3 x 3224
CAPACITY				Btu/h	3 x 9000	2 x 9000	11000	9000	2 x 11000	3 x 11000
RATED TOTAL POWER CONSUMPTION (COOLING)				W	2691	3069		3447		3825
RATED TOTAL POWER CONSUMPTION (HEATING)				W	2439	2773		3107		3441
RATED TOTAL RUNNING CURRENT (COOLING)				A	11.7	13.7		15.7		17.7
RATED TOTAL RUNNING CURRENT (HEATING)				A	10.6	12.9		15.0		17.1
POWER SOURCE				V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT					R407C / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN	FAN TYPE			ANTI FUNGUS CROSS FLOW FAN					
		AIR FLOW	HIGH	CFM/LPS	300 / 141.6	300 / 141.6	345 / 162.82	300 / 141.6	345 / 162.82	345 / 162.82
			MEDIUM	CFM/LPS	250 / 117.99	250 / 117.99	285 / 134.51	250 / 117.99	285 / 134.51	285 / 134.51
			LOW	CFM/LPS	200 / 94.39	200 / 94.39	220 / 103.83	200 / 94.39	220 / 103.83	220 / 103.83
		FAN MOTOR			4P x 9W	4P x 9W	4P x 13W	4P x 9W	4P x 13W	4P x 13W
		INPUT POWER		W	26	26	29	26	29	29
		RUNNING CURRENT		A	0.11	0.11	0.13	0.11	0.13	0.13
		FAN MOTOR PROTECTION			BUILT IN THERMAL OVERLOAD					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	7.0 / 0.276					
			THICKNESS	mm/in	0.28 / 0.011					
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS	mm/in	0.11 / 0.0043					
			ROW		2					
			FIN PER INCH		18					
		FACE AREA		m^2/ft^2	0.234 / 2.516					
		DIMENSION	HEIGHT	mm/in	260 / 10.2					
			WIDTH	mm/in	899 / 35.4					
			DEPTH	mm/in	198 / 7.8					
		WEIGHT		kg	12					
		SOUND PRESSURE LEVEL (H/M/L)		dBA	39 / 34 / 28	39 / 34 / 28	42 / 36 / 29	39 / 34 / 28	42 / 36 / 29	42 / 36 / 29
		CONTROL	ROOM TEMPERATURE		MICROCOMPUTER CONTROLLED THERMOSTAT					
			AIR DISCHARGE		AUTOMATIC LOUVER (UP & DOWN) & GRILLE (LEFT & RIGHT)					
			OPERATION		LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
		CONDENSATE DRAIN SIZE		mm/in	16 / 0.63					
		AIR FILTER			WASHABLE SARANET					
		OPTIONAL AIR FILTER			DUAL ACTION ELECTROSTATIC AIR PURIFYING AND DEODORIZING FILTER					
		PACKING DIMENSION	HEIGHT	mm/in	337 / 13.3					
			WIDTH	mm/in	957 / 37.7					
			DEPTH	mm/in	270 / 10.6					
OUTDOOR UNIT	COMP	COMPRESSOR TYPE			ROTARY					
		NUMBER			3					
		CAPACITOR		μF	30					
		LOCK ROTOR AMP		A	20	20	32	20	32	32
		INPUT POWER		W	795 / 711	795 / 711	1170 / 1042	795 / 711	1170 / 1042	1170 / 1042
		PROTECTION DEVICE			OVERLOAD PROTECTION					
	FAN	FAN TYPE / DRIVE			PROPELLER / DIRECT					
		BLADE MATERIAL			GLASS REINFORCED ACRLY STYRENE RESIN					
		DIAMETER		mm/in	486.2 / 19					
		RATED RUNNING CURRENT		A	0.98					
		MOTOR OUTPUT		W	150					
		RATED INPUT POWER		W	228					
		AIR FLOW		CFM/LPS	2400 / 1133					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	0.95 / 3/8					
			THICKNESS	mm/in	0.33 / 0.013					
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC CORR. FIN)					
			THICKNESS	mm/in	0.12 / 0.005					
			ROW		3					
			FIN PER INCH		14					
		FACE AREA		m^2/ft^2	0.50 / 5.39					
		DIMENSION	HEIGHT	mm/in	631.7 / 24.9					
			WIDTH	mm/in	960 / 37.8					
			DEPTH	mm/in	437 / 17.2					
		WEIGHT		kg	97	101		105		109
		SOUND PRESSURE LEVEL		dBA	66					
		CASING	MATERIAL		GALVANISED MILD STEEL					
			THICKNESS	mm/in	1.0 - 1.2 / 0.039 - 0.047					
			FINISHING		EPOXY POLYESTER POWDER					
	PIPE	TYPE			FLARE VALVE					
		SIZE	LIQUID	mm/in	6.35 / 1/4					
			GAS	mm/in	9.52 / 3/8	9.52 / 3/8	12.7 / 1/2	9.52 / 3/8	12.7 / 1/2	12.7 / 1/2
		PACKING DIMENSION	HEIGHT	mm/in	824 / 32.4					
			WIDTH	mm/in	1194 / 47.0					
			DEPTH	mm/in	611 / 24.1					
		REFRIGERANT CHARGE		kg	3 x 0.885	2 x 0.885	0.965	0.885	2 x 0.965	3 x 0.965

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
b) HEATING - 21.1°C DB / 15.6°C WB INDOOR AND 8.3°C DB / 6.1°C WB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
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MMSH SERIES COOLING ONLY

MODELS			OUTDOOR UNIT		MMSH8K8A	MMSH8K66A	MMSH66K66A	MMSH 66K555A		MMSH K77A
			INDOOR UNIT		MWMS010G (X2)	MWMS010G (X3)	MWMS010G (X4)	MWMS010G (X4)	MWMS015G	MWMS015G X 2
POWER SOURCE				V/Ph/Hz	220 ~ 240 / 1 / 50					
REFRIGERANT					R 22 / OUTDOOR CAPILLARY TUBE					
INDOOR UNIT	FAN		FAN TYPE		ANTI FUNGUS CROSS FLOW TANGENTIAL FAN/DIRECT					
			AIR FLOW	CFM/LPS	300 / 142				345 / 163	
			FAN MOTOR		4 POLES x 9W				4 POLES x 13W	
			RATED INPUT POWER	W	26				29	
			RATED RUNNING CURRENT	A	0.11				0.13	
			FAN MOTOR PROTECTION		BUILT IN THERMAL OVERLOAD					
	COIL	TUBE	MATERIAL		SEAMLESS INNER GROOVED COPPER					
			DIAMETER	mm/in	7.0 / 0.276					
			THICKNESS	mm/in	0.28 / 0.011					
		FIN	MATERIAL		ALUMINIUM (HYDROPHILIC SLIT FIN)					
			THICKNESS	mm/in	0.11 / 0.0043					
			ROW		2					
			FIN PER INCH		18					
			FACE AREA	m^2/ft^2	0.234 / 2.516					
			DIMENSION	HEIGHT mm/in	260 / 10.2					
				WIDTH mm/in	899 / 35.4					
				DEPTH mm/in	198 / 7.8					
			WEIGHT	kg	12					
			SOUND LEVEL - H / M / L	dBA	39 / 34 / 28				42 / 36 / 29	
			CONTROL	ROOM TEMPERATURE	MICROCOMPUTER CONTROLLED THERMOSTAT					
				AIR DISCHARGE	AUTOMATIC LOUVER (UP & DOWN) & MANUAL ADJUST GRILLE (LEFT & RIGHT)					
				OPERATION	LCD WIRELESS MICRO COMPUTER REMOTE CONTROL					
			CONDENSATE DRAIN SIZE	mm/in	16 / 0.63					
			AIR FILTER *		WASHABLE SARANET					
			PACKING DIMENSION	HEIGHT mm/in	337 / 13.3					
				WIDTH mm/in	957 / 37.7					
				DEPTH mm/in	270 / 10.6					
OUTDOOR UNIT	COMP		COMPRESSOR TYPE		ROTARY					
			NUMBER		2					1
			CAPACITOR	µF	25 / 25					30
			LOCK ROTOR AMP	A	15 / 15			21/ 21		25
			PROTECTION DEVICE		OVERLOAD PROTECTION					
	FAN		FAN TYPE / DRIVE		PROPELLER/DIRECT					
			BLADE MATERIAL		GLASS REINFORCED ACRLY STYRENE RESIN					
			DIAMETER	mm/in	420 / 16.5					355 /14
			RATED RUNNING CURRENT	A	0.7					0.28
			RATED OUTPUT POWER	W	80					30
			RATED INPUT POWER	W	170					62
	COIL	TUBE	MATERIAL		SEAMLESS COPPER	SEAMLESS INNER GROOVED COPPER				
			DIAMETER	mm/in	9.52 / 3/8					
			THICKNESS	mm/in	0.35 / 0.014	0.33 / 0.013				
		FIN	MATERIAL		ALUMINIUM (SLIT FIN TYPE)					
			THICKNESS	mm/in	0.12 / 0.005					
			ROW		2					1
			FIN PER INCH		14	16				19
			FACE AREA (m^2/ft^2)		0.51 / 5.53					0.32 / 3.50
			DIMENSION	HEIGHT (mm/in)	646 / 25.4					494 / 19.4
				WIDTH (mm/in)	840 / 33.1					740 / 29.1
				DEPTH (mm/in)	330 / 13					270 / 10.6
			DIMENSION	HEIGHT mm/in	646 / 25.4					558 / 22.0
				WIDTH mm/in	840 / 33.1					851 / 33.5
				DEPTH mm/in	330 / 13.0					401 / 15.8
			WEIGHT	kg	62	63	64	65		35
			CASING	MATERIAL	GALVANISED MILD STEEL					
				THICKNESS mm/in	0.8 / 0.031					
				FINISH	EPOXY-POLYESTER POWDER					
			NOISE LEVEL	dBA	56					50
		PIPE	TYPE		FLARE VALVE					
			PIPE SIZE	LIQIUD mm/in	6.35 / 1/4					
				GAS mm/in	9.52 / 3/8				12.7 / 1/2	
			PACKING DIMENSION	HEIGHT mm/in	710 / 28.0					558 / 2.0
				WIDTH mm/in	982 / 38.7					851 / 33.5
				DEPTH mm/in	461 / 18.1					401 / 15.8
			REFRIGERANT CHARGE	kg	2 x 0.675	0.925 / 0.625	2 x 0.825	0.925 / 0.875		0.825

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3) NOMINAL COOLING CAPACITY IS BASED ON THE CONDITIONS BELOW :
a) COOLING - 26.7°C DB / 19.4°C WB INDOOR AND 35°C DB OUTDOOR
4) SOUND PRESSURE LEVEL IS ACCORDING TO JIS B 8615 STANDARD.
POSITION OF THE MEASUREMENT POINT IS 1.0m IN FRONT AND 1.0m BELOW THE UNIT.
5) ALL SPECIFICATIONS ARE TENTATIVE SPECIFICATIONS AT THE TIME OF PRINTING. PLEASE CONSULT YOUR DEALER FOR CONFIRMATION.

COOLING CAPACITY
MMSH SERIES COOLING ONLY

MODEL	OUTDOOR UNIT	MMSHK77A		MMSH8K8A	
	INDOOR UNIT	INDOOR A,B : MWMS015G X 2		INDOOR UNIT A, B : MWMS010G X 2	
NOMINAL	NUMBER OF UNIT	ONE UNIT RUNNING	TWO UNITS RUNNING	ONE UNIT RUNNING	TWO UNITS RUNNING
COOLING	OPERATING	A OR B	A + B	A OR B	A + B
CAPACITY	kcal/h	3100	1840 + 1840	2091	2091 + 2091
	W	3605	2140 + 2140	2433	2433 + 2433
	Btu/h	12300	7300 + 7300	8300	8300 + 8300
POWER CONSUMPTION (W)		1377	1413	825	1494
RUNNING CURRENT (A)		6	6.5	3.6	6.3

MODEL	OUTDOOR UNIT	MMSH8K66A				
	INDOOR UNIT	INDOOR UNIT A1, A2, B : MWMS010G X 2				
NOMINAL	NUMBER OF UNIT	ONE UNIT RUNNING		TWO UNITS RUNNING		THREE UNITS RUNNING
COOLING	OPERATING	A1 OR A2	B	A1+A2	A1+B, OR A2+B	A1+A2+B
CAPACITY	kcal/h	2520	2041	1613 + 1613	2520 + 2041	1613 + 1613 + 2041
	W	2931	2374	1876 + 1876	2931 + 2374	1876 + 1876 +2374
	Btu/h	10000	8100	6400 + 6400	10000 + 8100	6400 + 6400 + 8100
POWER CONSUMPTION (W)		1149	834	1244	1839	1937
RUNNING CURRENT (A)		5.0	3.6	5.3	7.9	8.2

MODEL	OUTDOOR UNIT	MMSH66K66A			
	INDOOR UNIT	INDOOR UNIT A1, A2, B1, B2 : MWMS010G X 2			
NOMINAL	NUMBER OF UNIT	ONE UNIT RUNNING	TWO UNITS RUNNING		FOUR UNITS RUNNING
COOLING	OPERATING	A1, A2, B1, OR B2	A1+A2, OR B1+B2	A1+B1, OR A2+B2	A1+A2+B1+B2
CAPACITY	kcal/h	2520	1613 + 1613	2520 + 2520	4 X 1613
	W	2931	1876 + 1876	2931 + 2931	4 X 1876
	Btu/h	10000	6400 + 6400	10000 + 10000	4 X 6400
POWER CONSUMPTION (W)		1163	1246	2186	2351
RUNNING CURRENT (A)		5.1	5.4	9.6	10.2

MODEL	OUTDOOR UNIT	MMSH66K555A					
	INDOOR UNIT	INDOOR UNIT A1, A2,A3, B1 : MWMS010G X 4, B2 : MWMS015G					
NOMINAL	NUMBER OF UNIT	ONE UNIT RUNNING		TWO UNITS RUNNING			
COOLING	OPERATING	A1,A2,A3, OR B1	B2	A1+A2,A2+A3, OR A3+A1	B1+B2	(A1,A2, OR A3) + B1	(A1,A2, OR A3) + B2
CAPACITY	kcal/h	2520	3024	1613 X 2	1512 + 1764	2520 X 2	2520 + 3024
	W	2931	3517	1876 X 2	1578 + 2052	2931 X 2	2931 + 3517
	Btu/h	10000	12000	6400 X 2	6000 + 7000	10000 X 2	10000 + 12000
POWER CONSUMPTION (W)		1206	1266	1286	1304	2242	2232
RUNNING CURRENT (A)		5.3	5.5	5.6	5.7	9.9	10.1

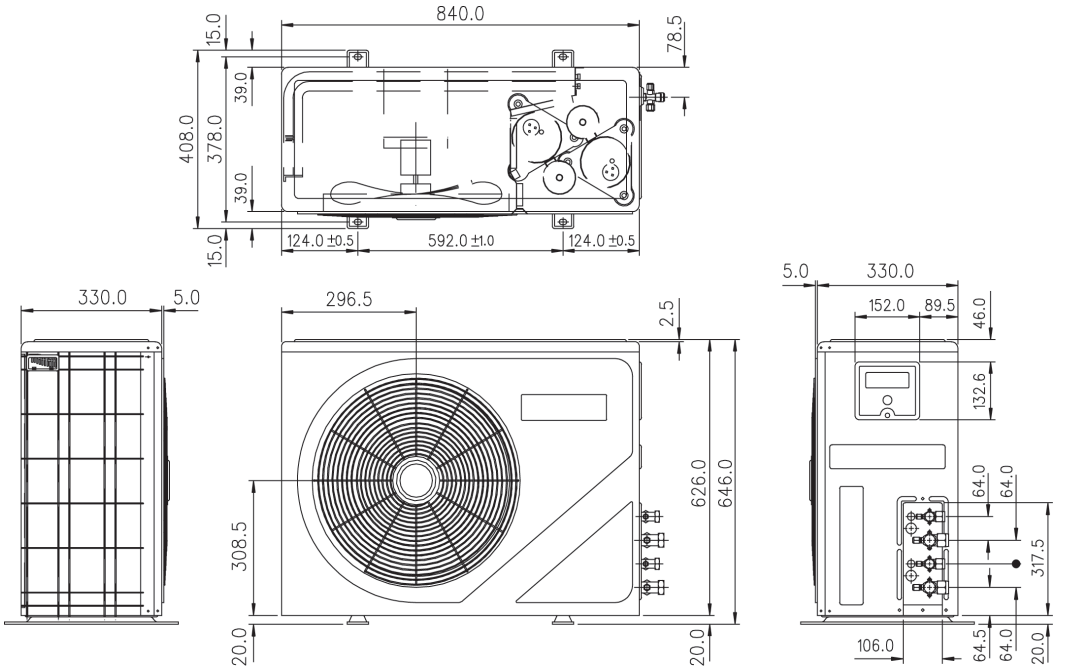
MODEL	OUTDOOR UNIT	MMSH66K555A			
	INDOOR UNIT	INDOOR UNIT A1, A2,A3, B1 : MWMS010G X 4, B2 : MWMS015G			
NOMINAL	NUMBER OF UNIT	THREE UNIT RUNNING			
COOLING	OPERATING	A1 + A2 +A3	A1 + A2 + B1	A1 + A2 + B2	A1 + B1 + B2
CAPACITY	kcal/h	1134 X 3	1613 X 2 + 2520	1613 X 2 + 3024	2520 + 1512 +1764
	W	1319 X 3	1876 X 2 + 2931	1876 X 2 +3517	2931 + 1758 + 2052
	Btu/h	4500 X 3	6400 X 2 + 10000	6400 X 2 + 10000	10000 + 6000 + 7000
POWER CONSUMPTION (W)		1329	2322	2382	2340
RUNNING CURRENT (A)		5.8	10.2	10.4	10.3

MODEL	OUTDOOR UNIT	MMSH66K555A			
	INDOOR UNIT	INDOOR UNIT A1, A2,A3, B1 : MWMS010G X 4, B2 : MWMS015G			
NOMINAL	NUMBER OF UNIT	FOUR UNITS RUNNING			FIVE UNITS RUNNING
COOLING	OPERATING	A1 + A2 + A3 + B1	A1 + A2 + A3 + B2	A1 + A2 + B1 + B2	A1 + A2 + A3 + B1 + B2
CAPACITY	kcal/h	1134 X 3 + 2520	1134 X 3 + 3024	1613 X 2 + 1512 + 1764	1134 X 3 + 1512 + 1764
	W	1319 X 3 + 2931	1319 X 3 + 3517	1876 X 2 + 1758 + 2052	1319 X 3 + 1758 + 2052
	Btu/h	4500 X 3 + 10000	4500 X 3 + 12000	6400 X 2 + 6000 + 7000	4500 X 3 + 6000 + 7000
POWER CONSUMPTION (W)		2365	2425	2420	2464
RUNNING CURRENT (A)		10.4	10.5	10.6	10.8

Outlines And Dimensions

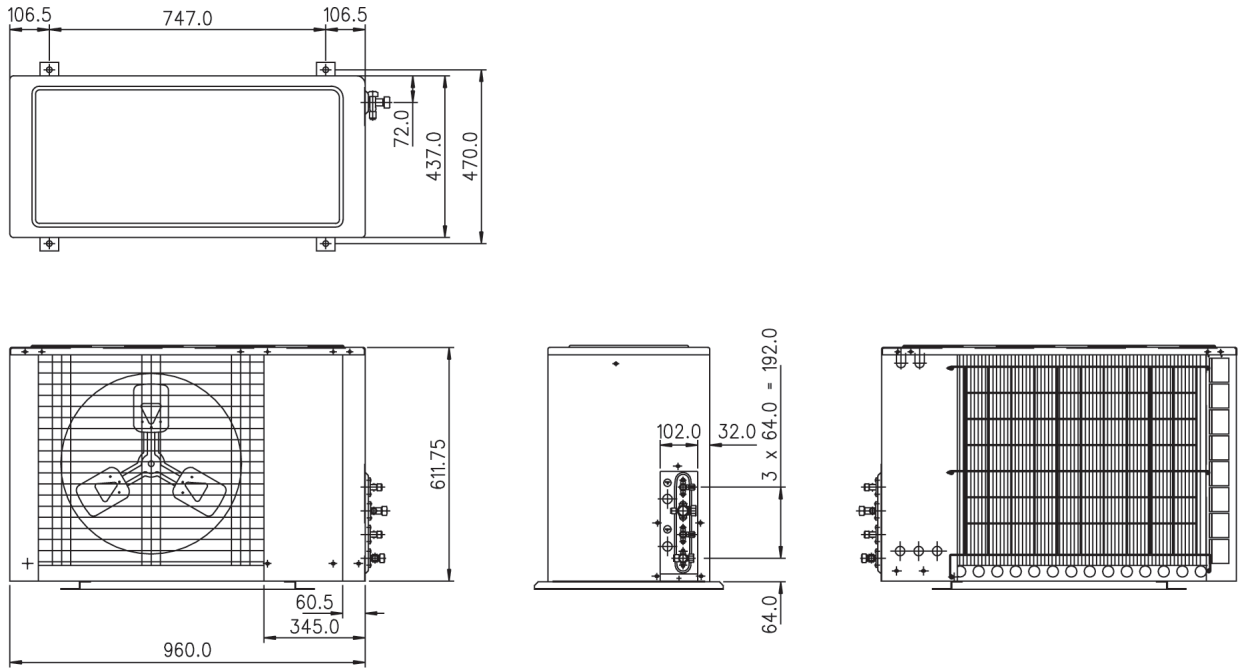
OUTDOOR UNIT

MODEL : MMSD 1010 / 1015 / 1515 A/AR
MMSD 1520AR
M4MSD 1010 / 1015 / 1515 A/AR



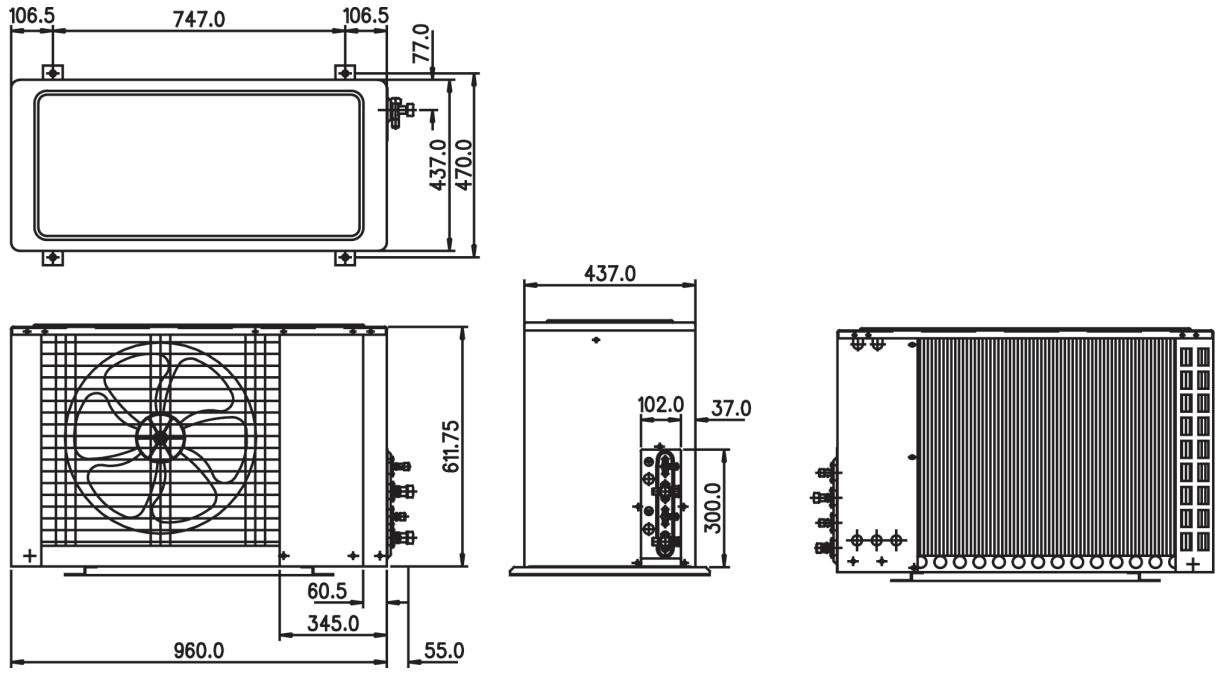
Note : Dimension in mm

MODEL : MMSD 1020 / 1520 A



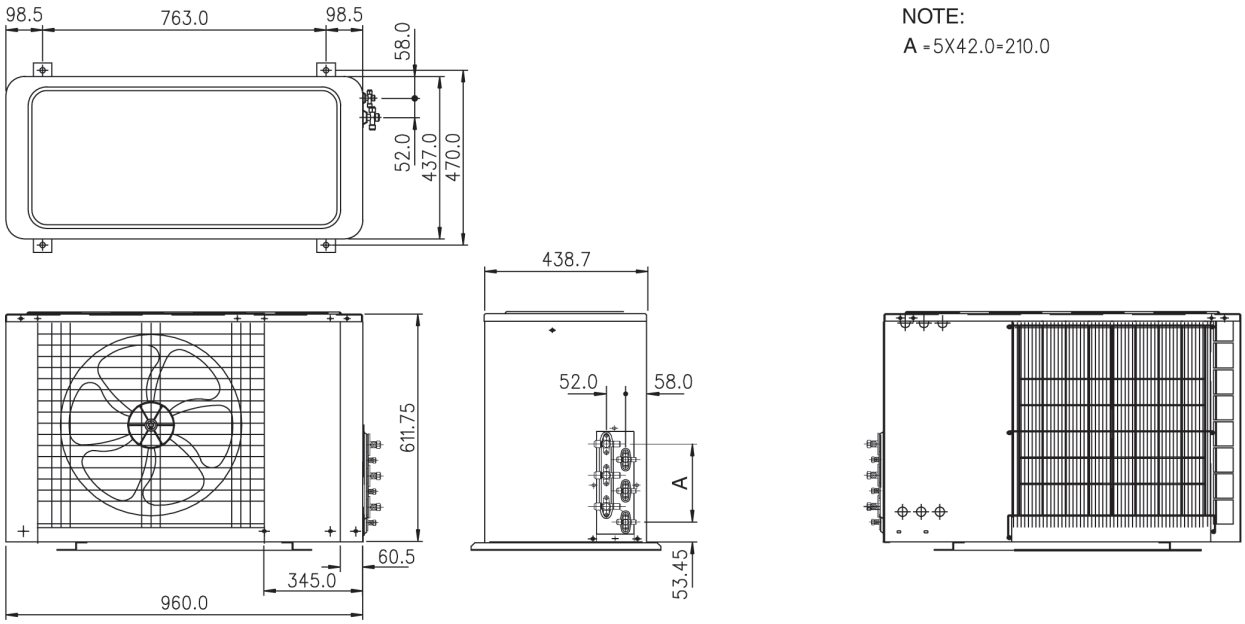
Note : Dimension in mm

MODEL : MMSD 2020A



Note : Dimension in mm

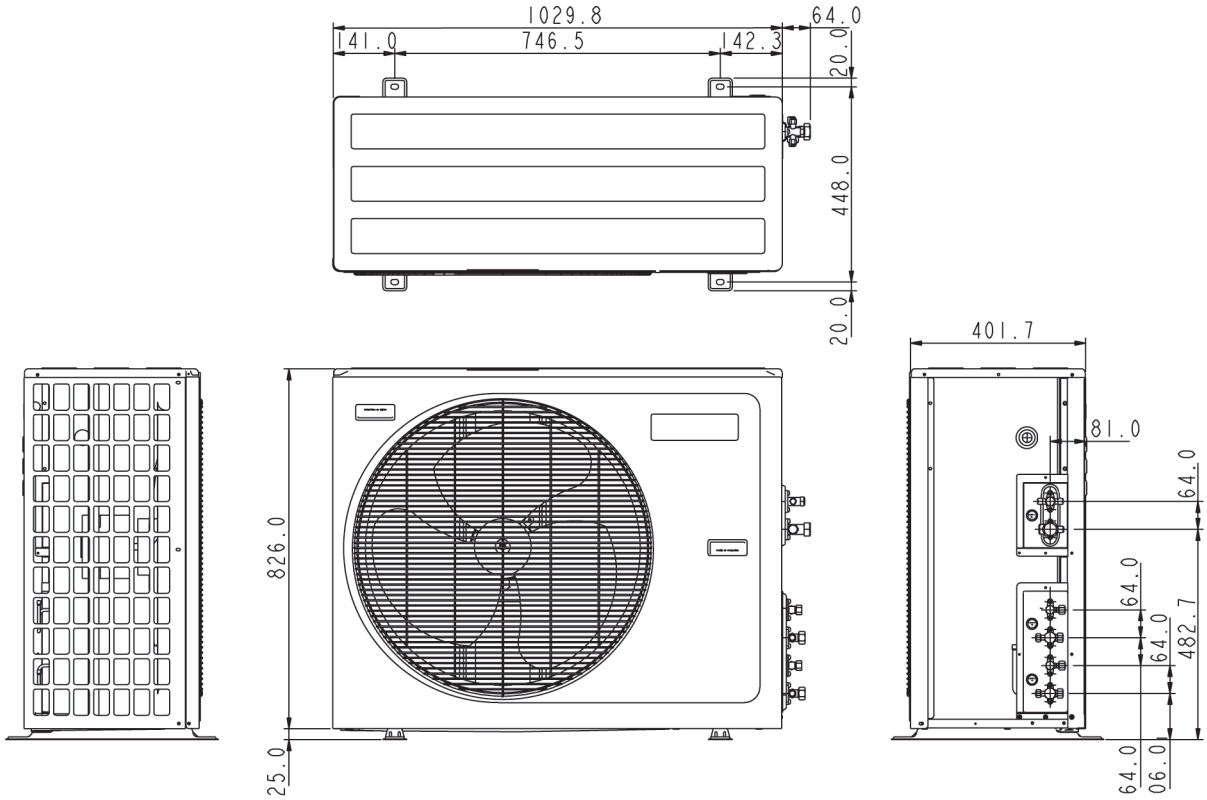
MODEL : MMST 101010 / 101015 / 101515 / 151515 / 101020A
M4MST 101010 / 101015 / 101515 / 151515 A/AR



NOTE:
A =5X42.0=210.0

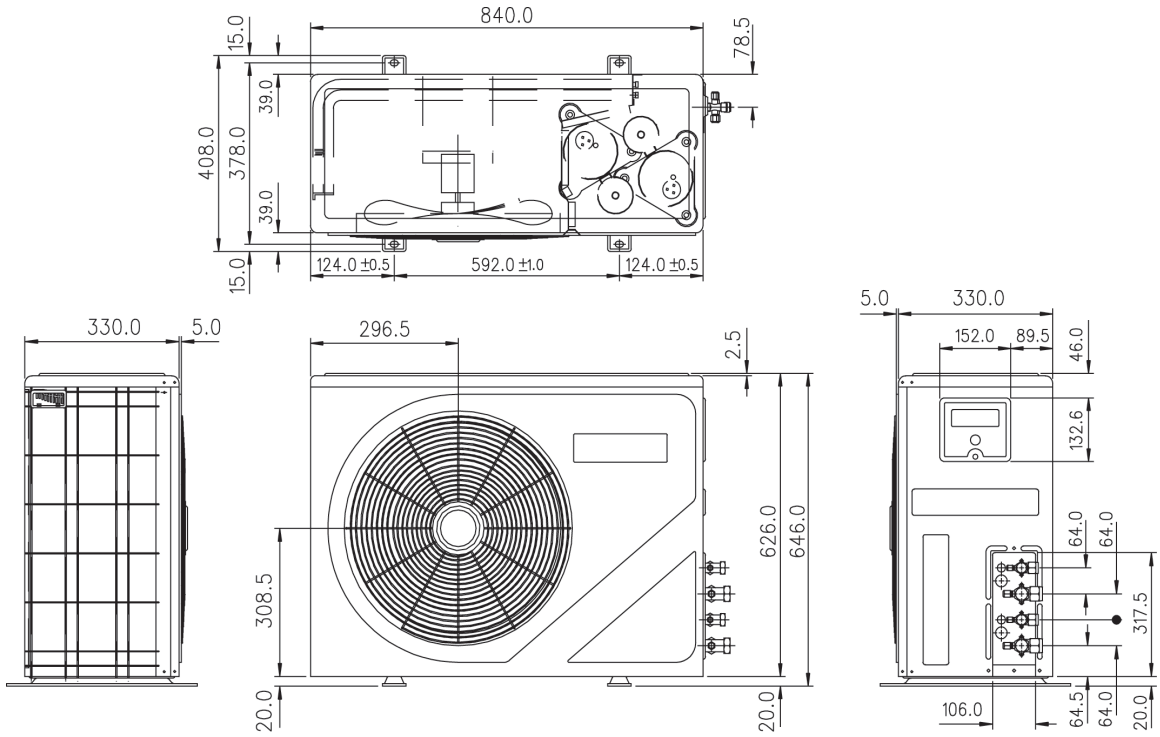
Note : Dimension in mm

MODEL : MMST 101025 / 101525 / 151525 A



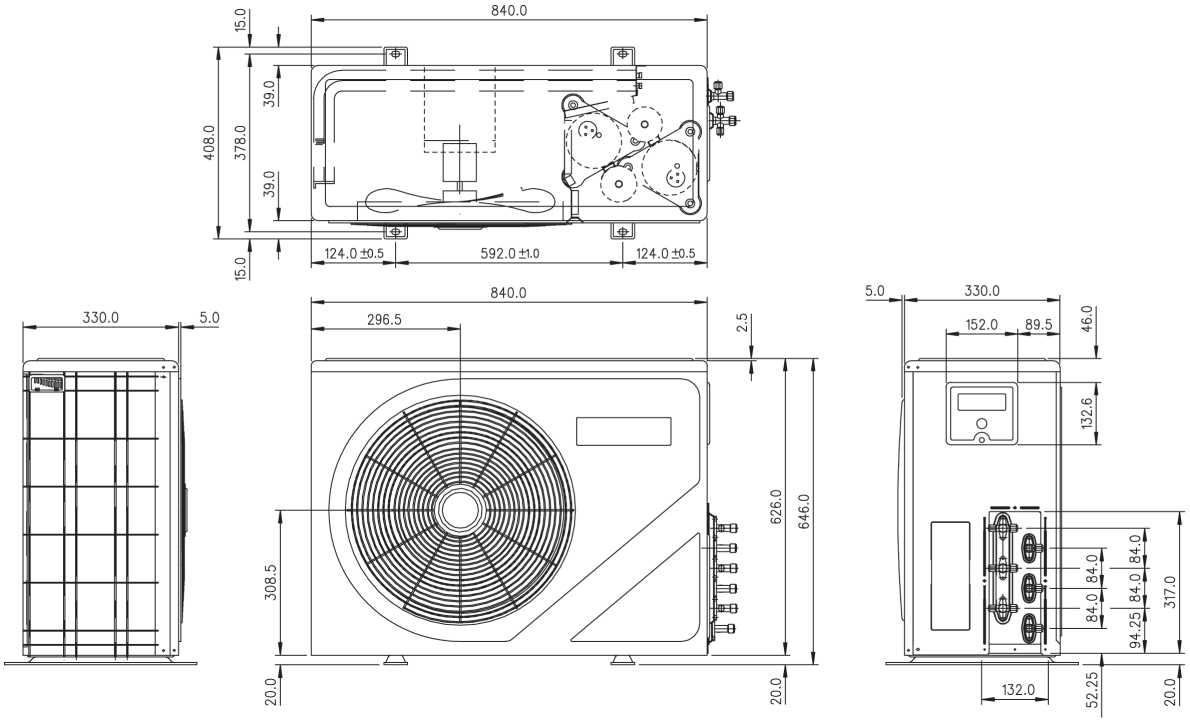
Note : Dimension in mm

MODEL : MMSH 8K8 A



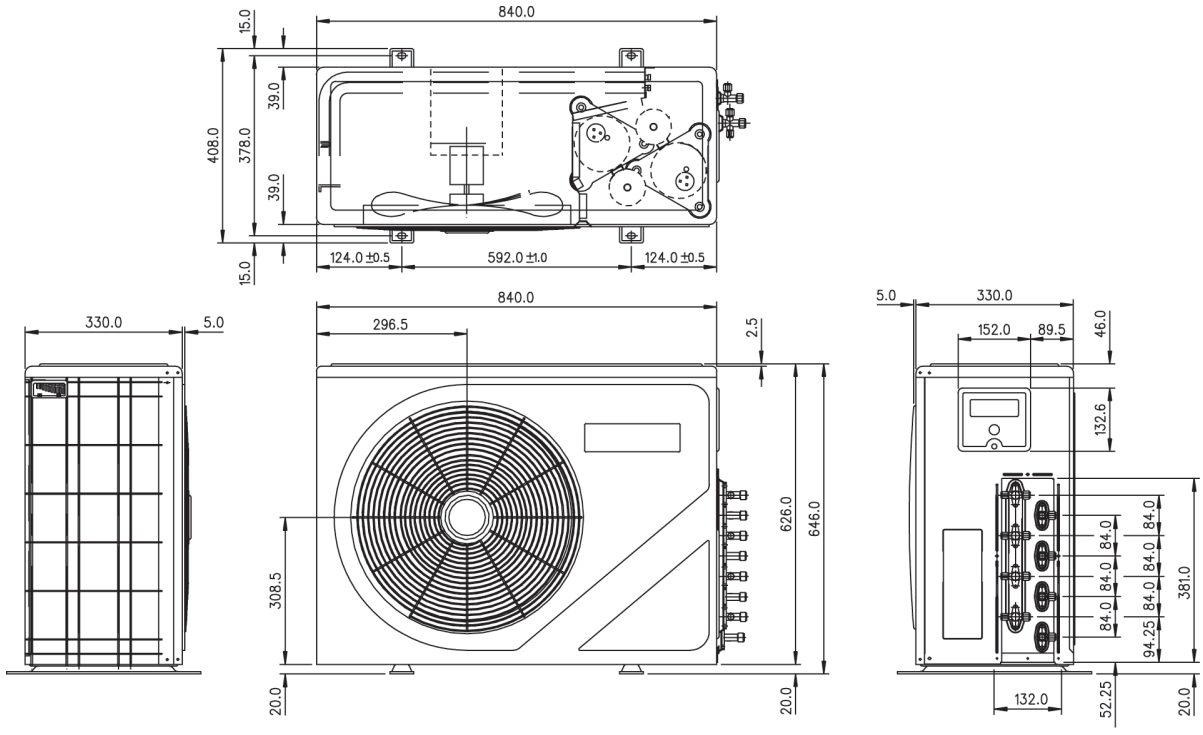
Note : Dimension in mm

MODEL : MMSH 8K66 A



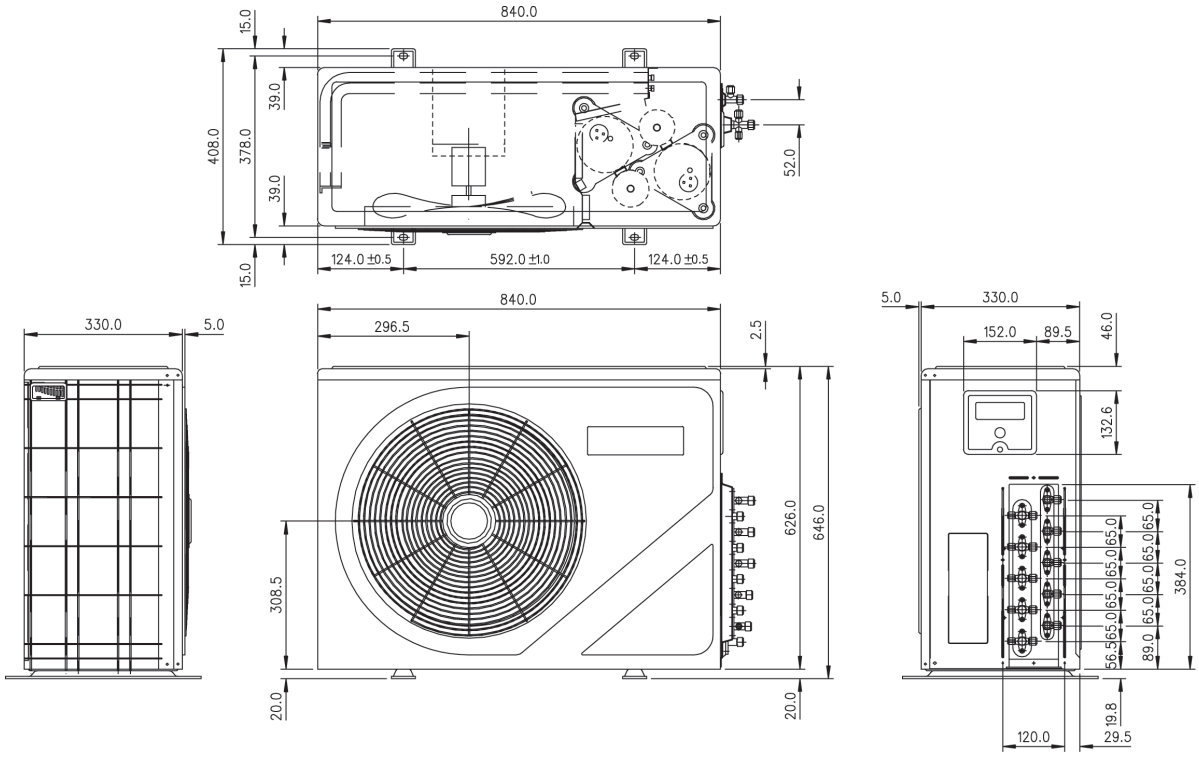
Note : Dimension in mm

MODEL : MMSH 66K66 A



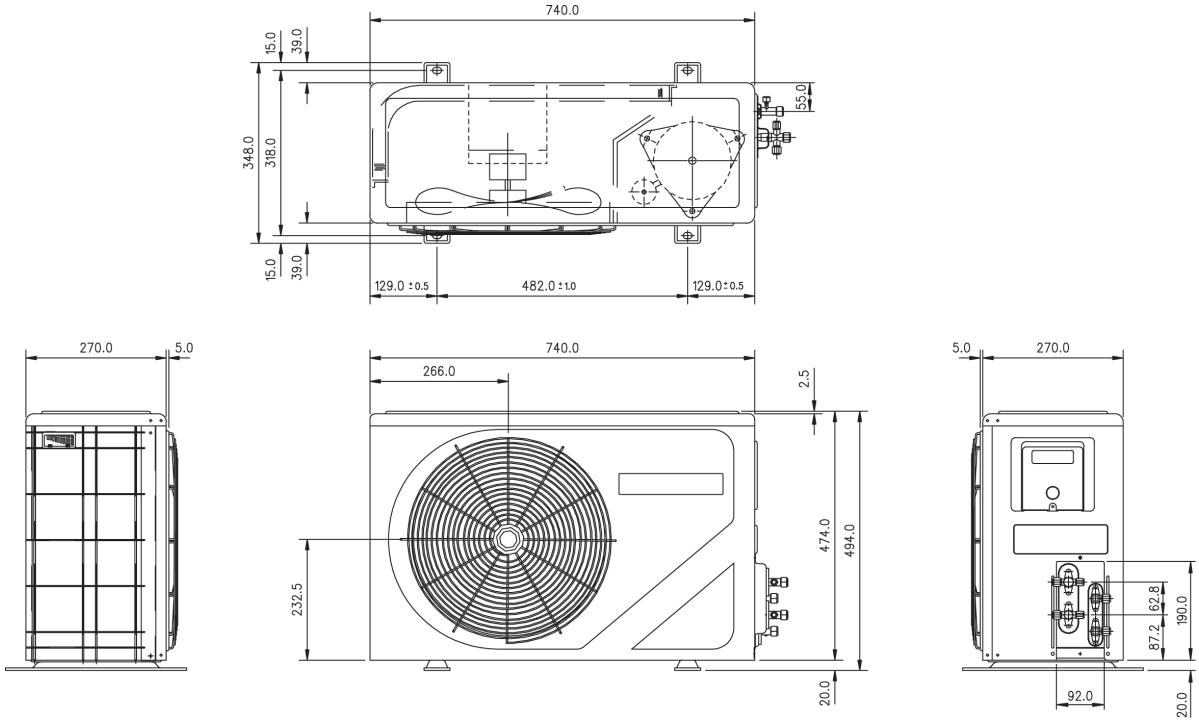
Note : Dimension in mm

MODEL : MMSH 66K555 A



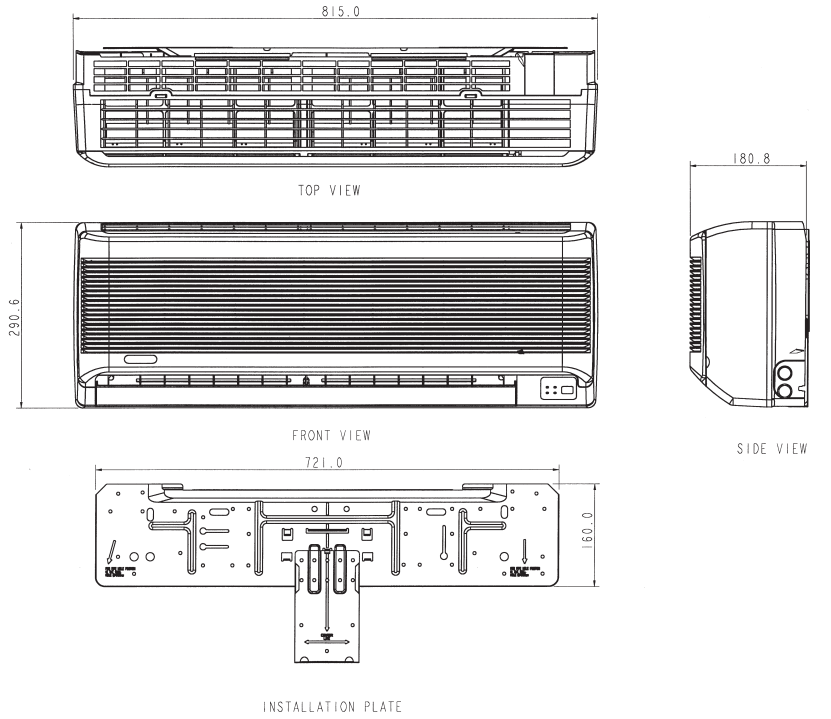
Note : Dimension in mm

MODEL : MMSH K77 A



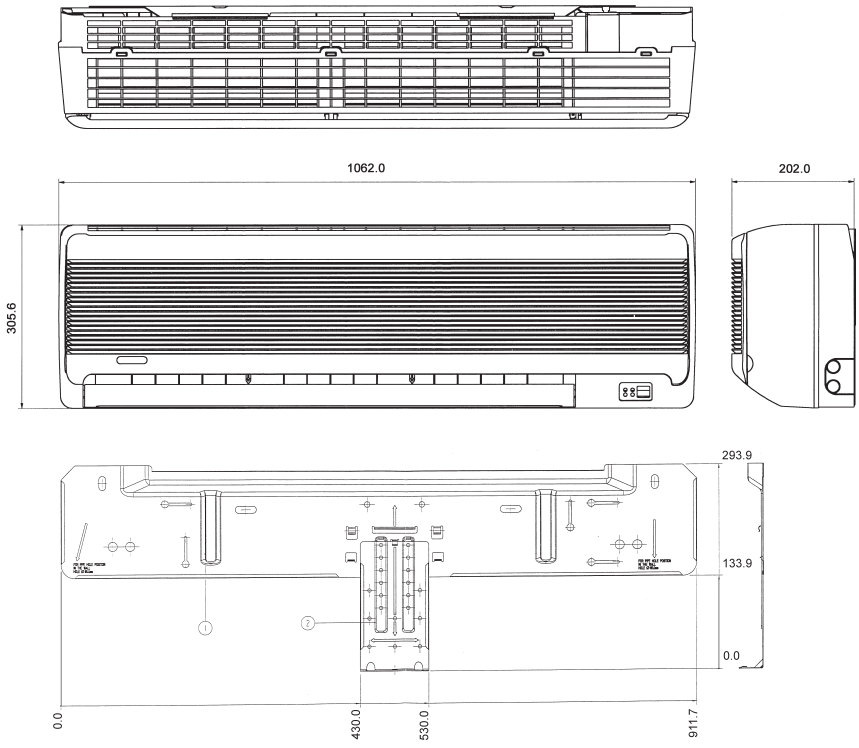
Note : Dimension in mm

INDOOR UNIT
MODEL : MWMS 010/015 F/FR



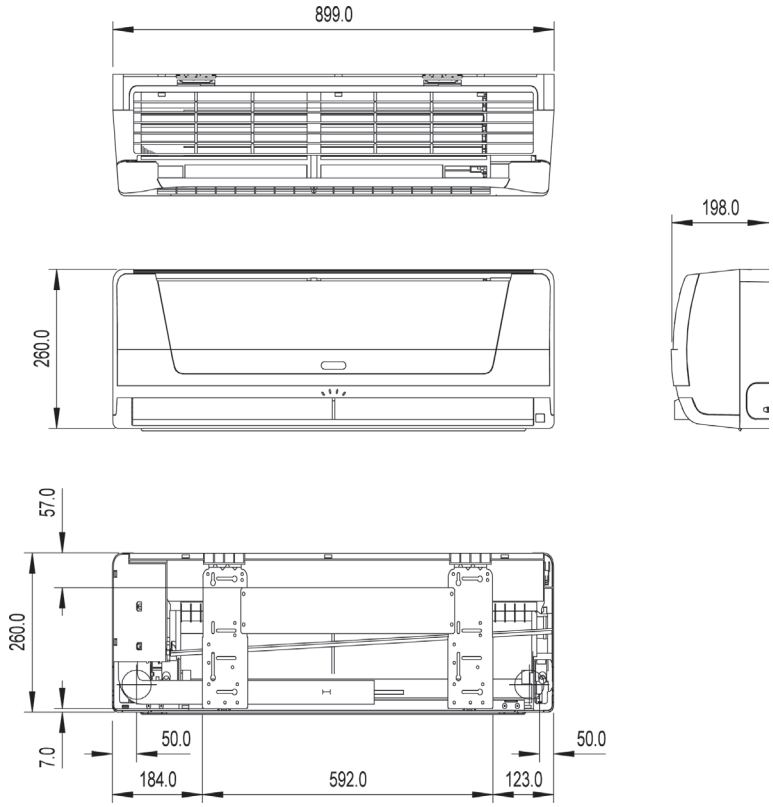
Note : Dimension in mm

INDOOR UNIT
MODEL : MWMS 020 F/FR



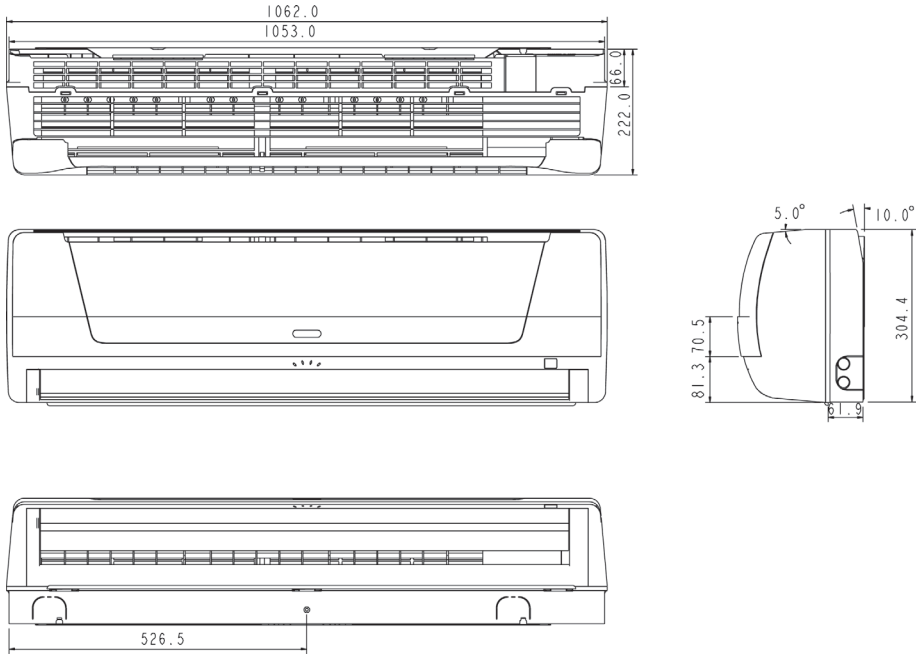
Note : Dimension in mm

INDOOR UNIT
MODEL : MWMS 010/015 G/GR



Note : Dimension in mm

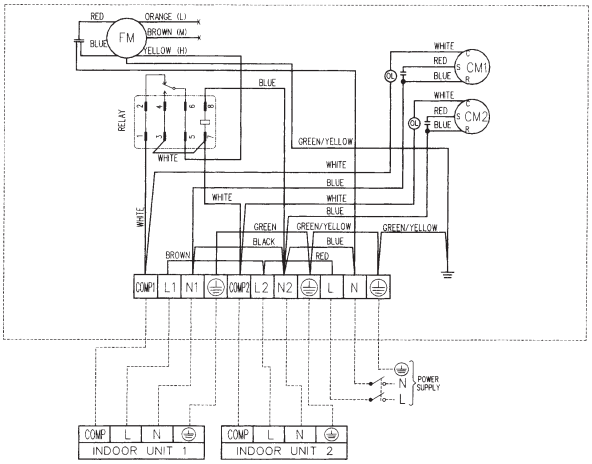
INDOOR UNIT
MODEL : MWMS 020 G/GR



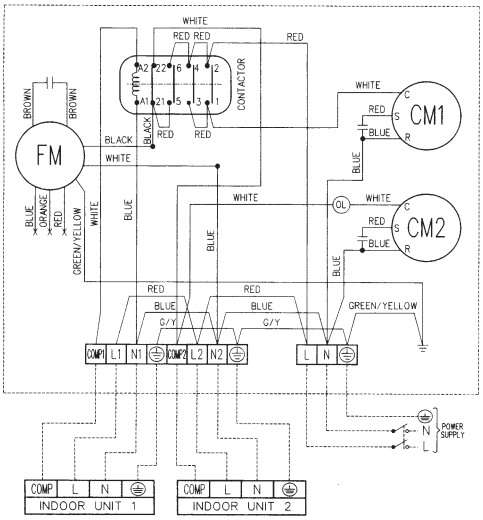
Note : Dimension in mm

Wiring Diagram

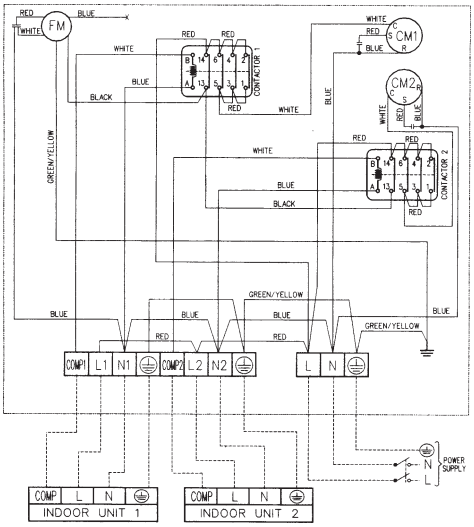
OUTDOOR UNIT - COOLING ONLY
MODEL : MMSD/M4MSD 1010A/ 1015A/ 1515A



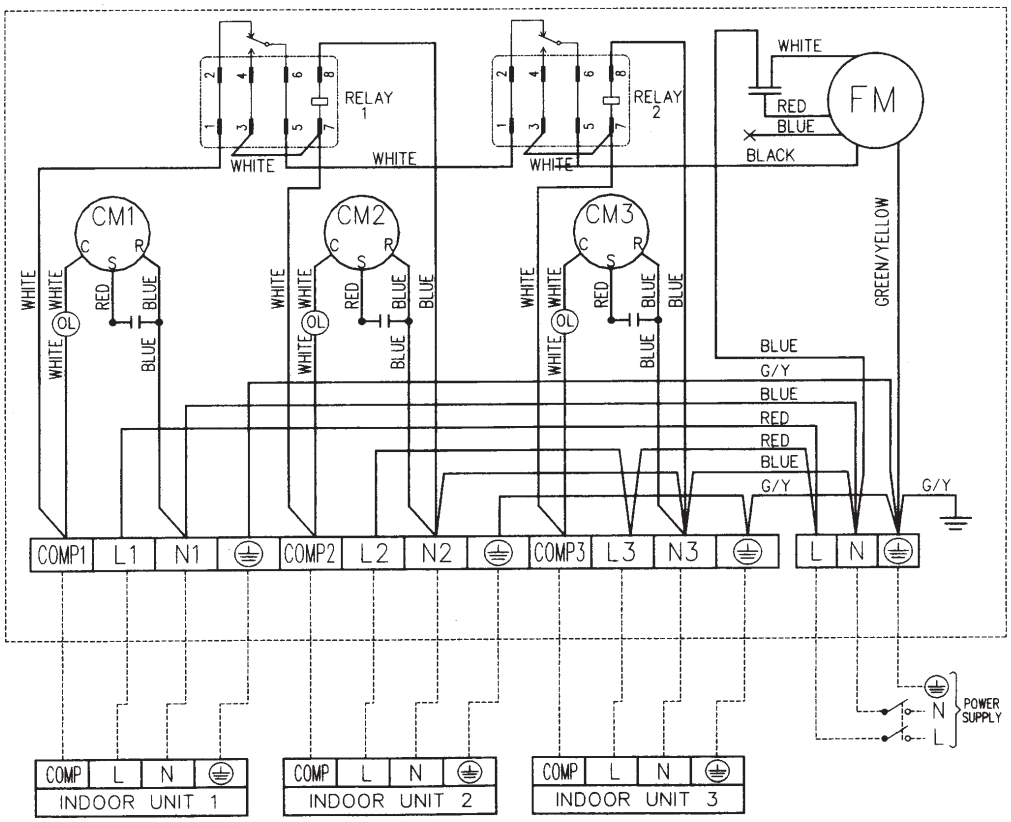
MODEL : MMSD 1020A/ 1520A



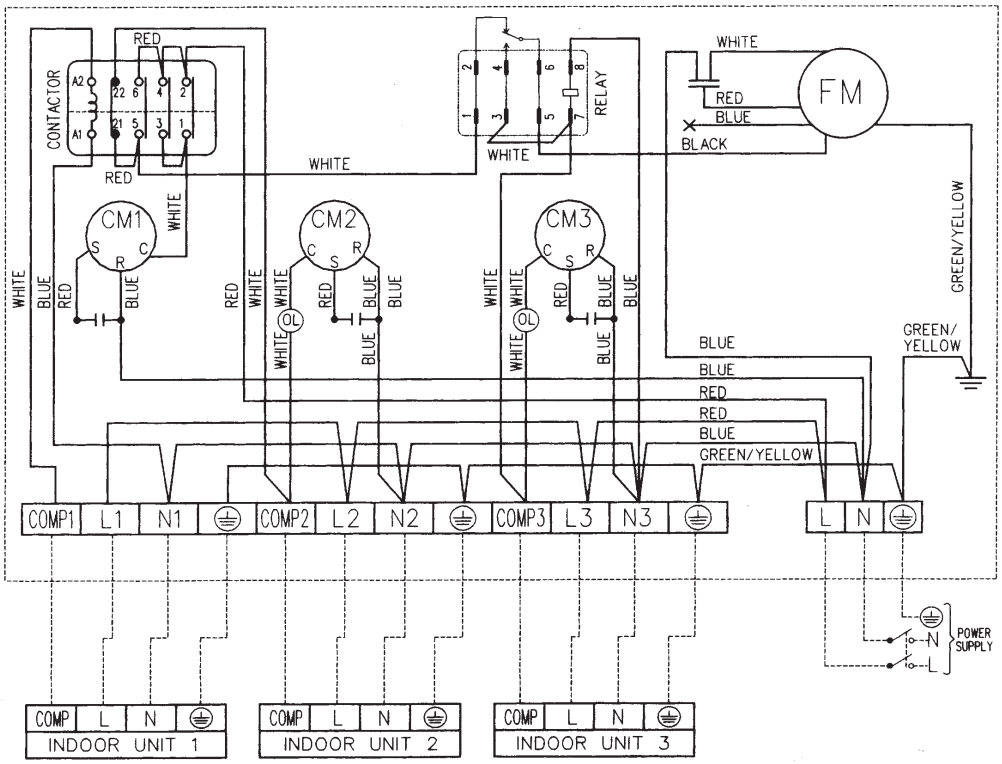
MODEL : MMSD 2020A



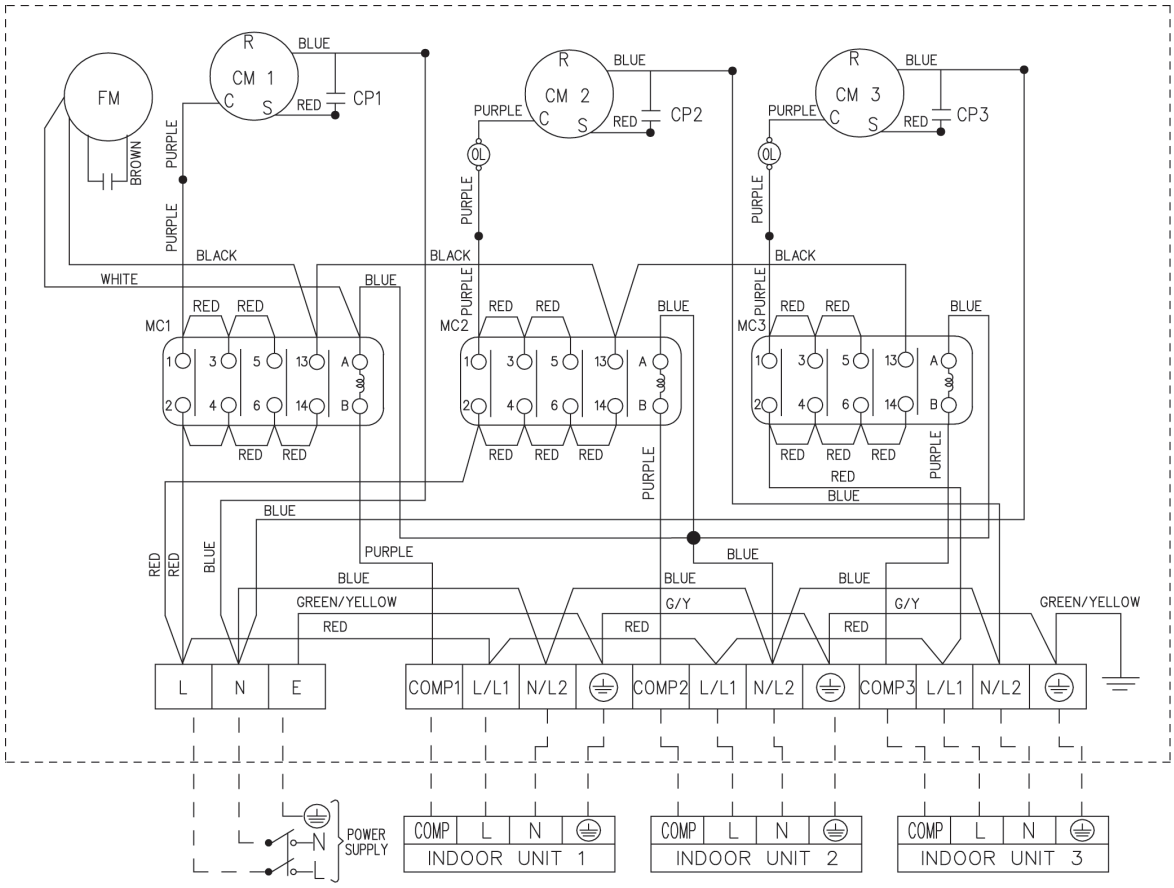
OUTDOOR UNIT - COOLING ONLY
MODEL : MMST/M4MST 101010A/ 101015A/ 101515A/ 151515A



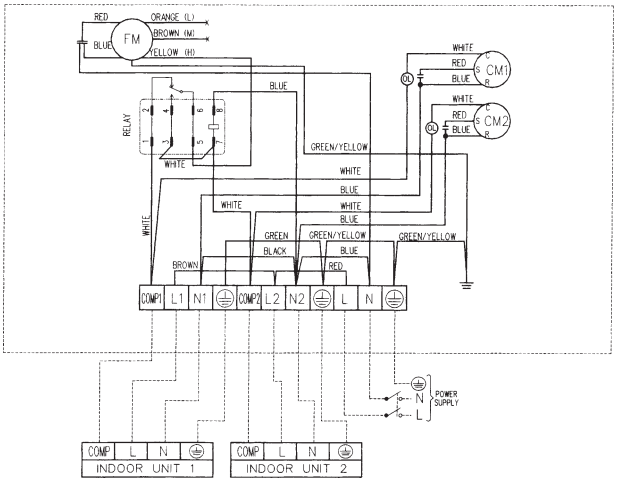
MODEL : MMST 101020A



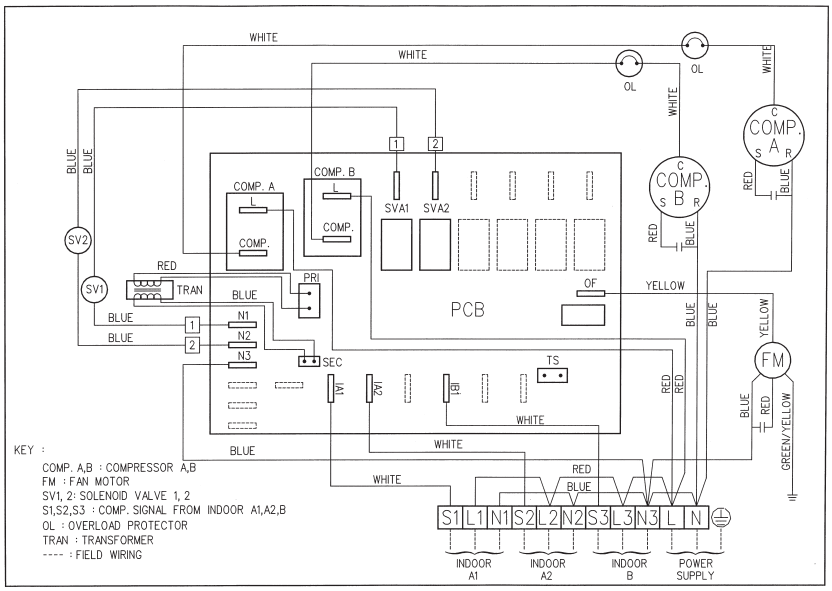
OUTDOOR UNIT - COOLING ONLY
MODEL : MMST 101025A/ 101525A/ 151525A



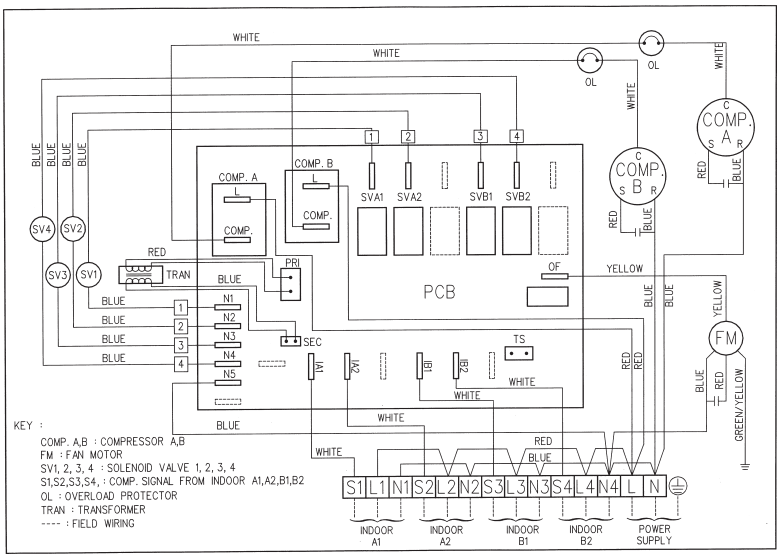
OUTDOOR UNIT - COOLING ONLY
MODEL : MMSH8K8A



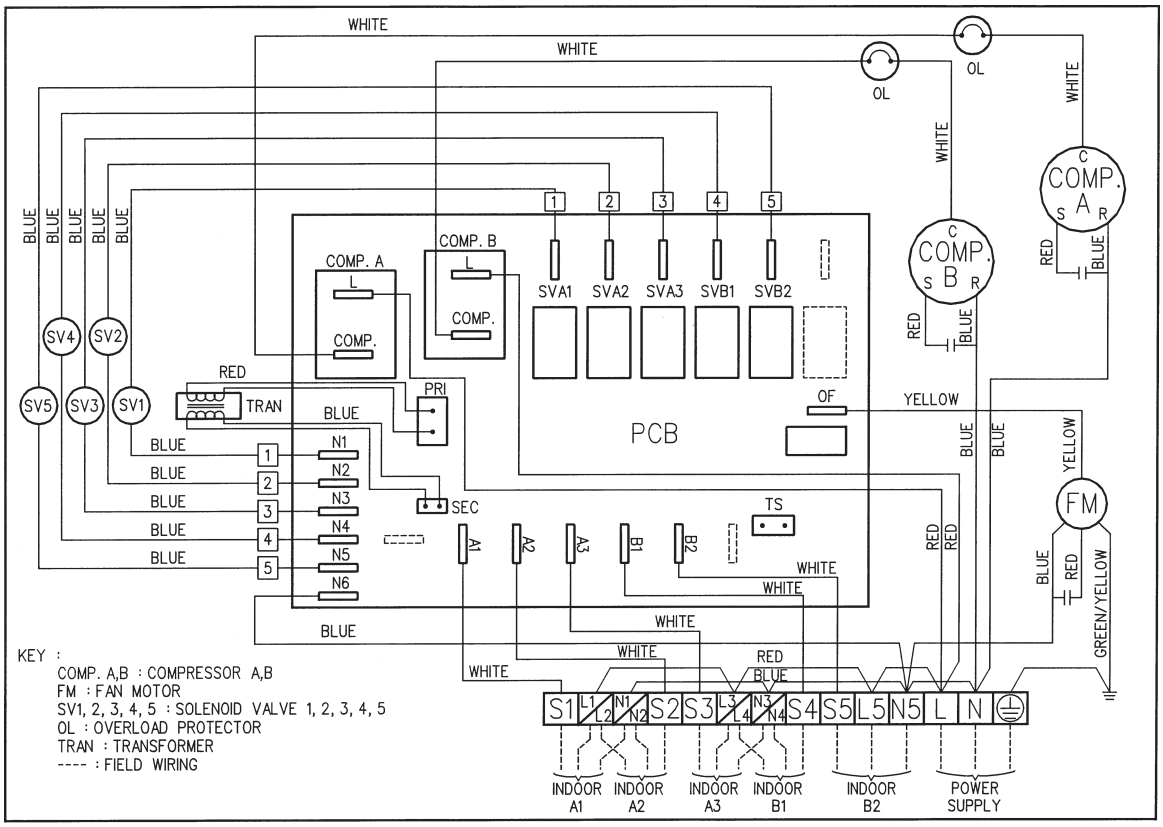
MODEL : MMSH8K66A



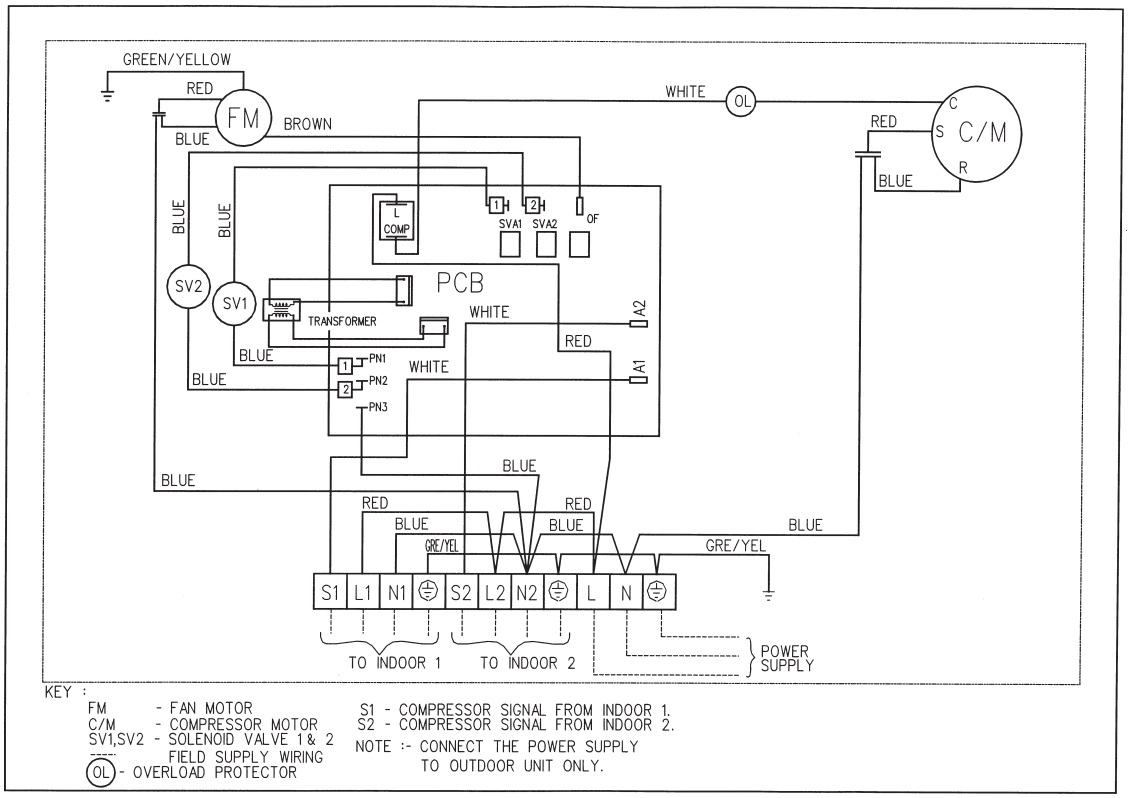
MODEL : MMSH66K66A



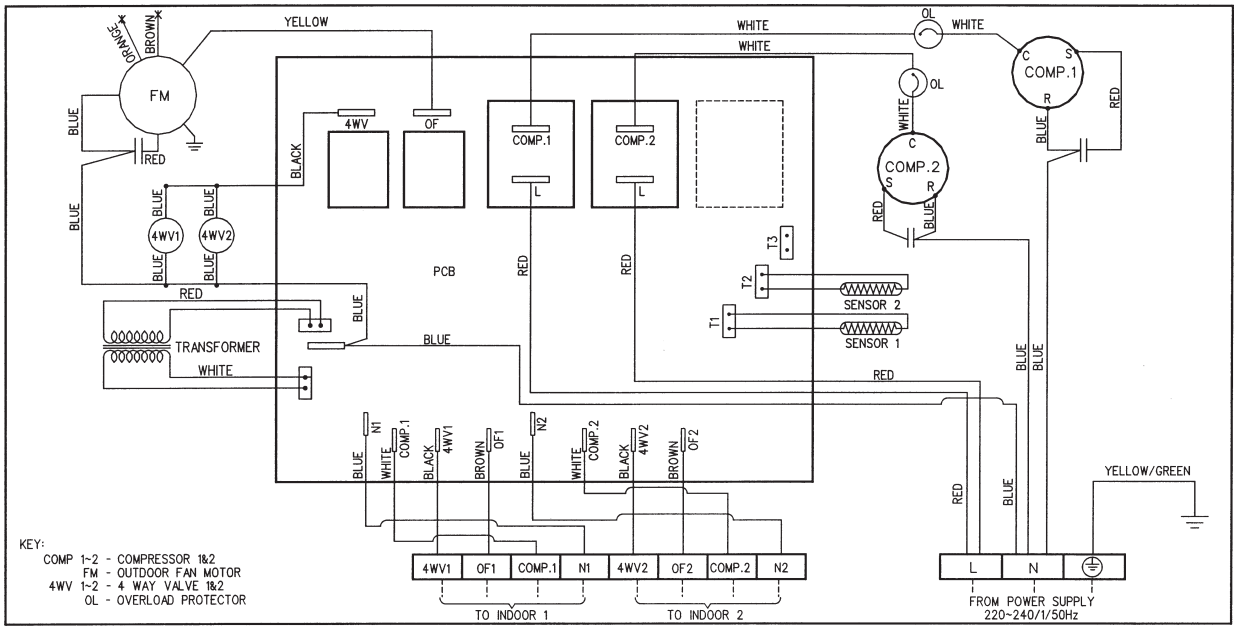
OUTDOOR UNIT - COOLING ONLY
MODEL : MMSH66K555A



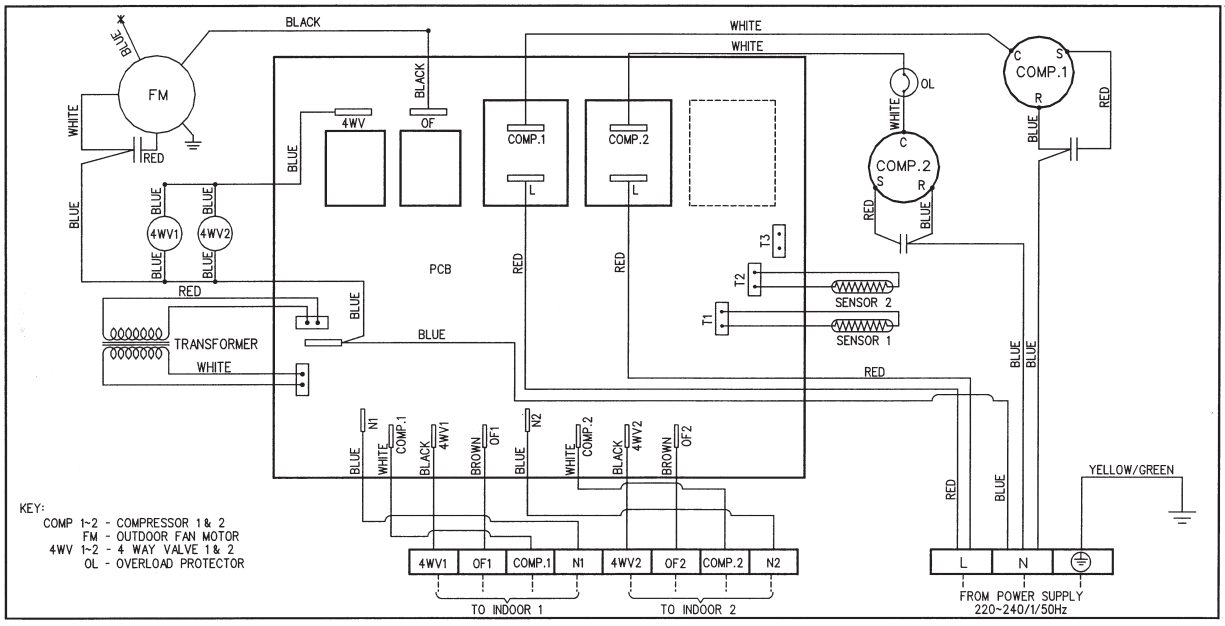
MODEL : MMSHK77A



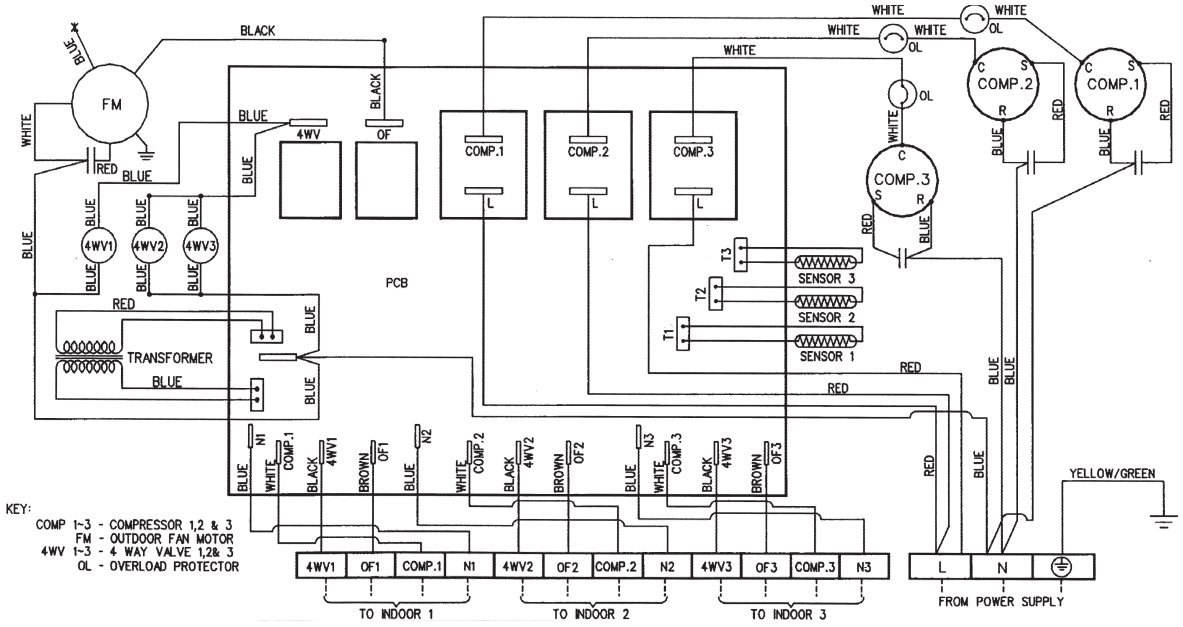
OUTDOOR UNIT - HEATPUMP
MODEL : MMSD/M4MSD 1010AR / 1015AR / 1515AR



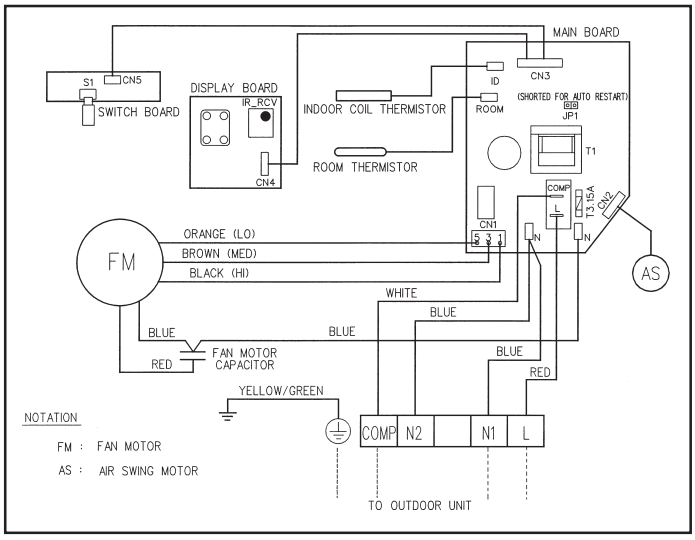
MODEL : MMSD 1520AR



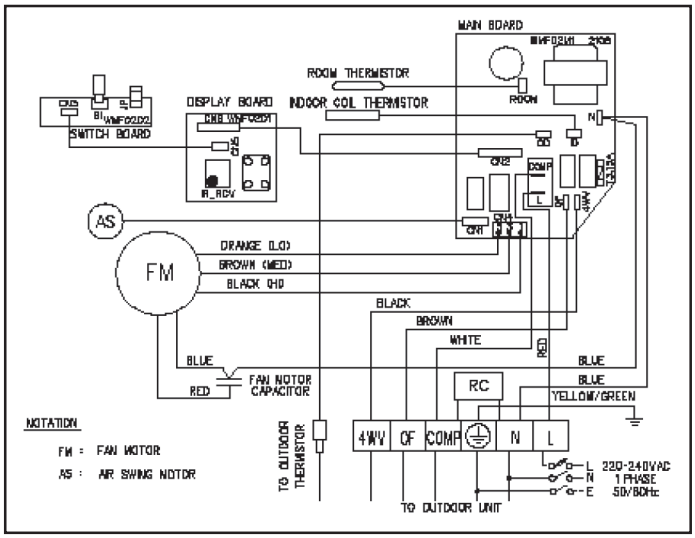
OUTDOOR UNIT - HEATPUMP
MODEL : M4MST 101010AR / 101015AR / 101515AR / 151515AR



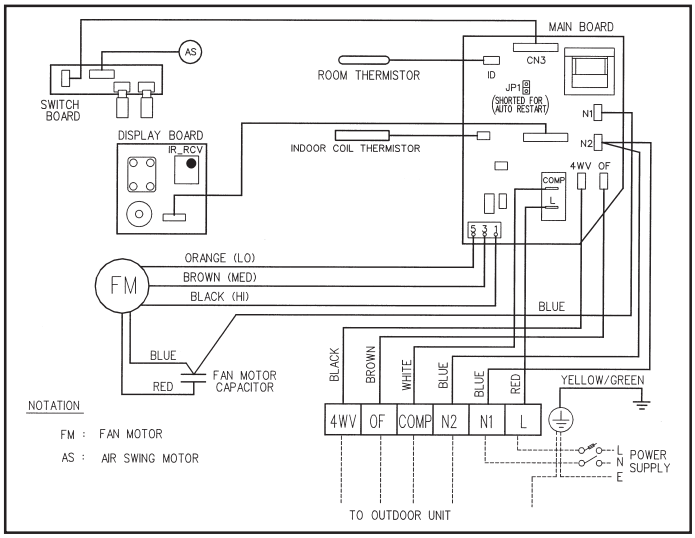
INDOOR UNIT - COOLING ONLY
MODEL : MWMS 010F/ 015F/ 020F (AUTO RANDOM RESTART)



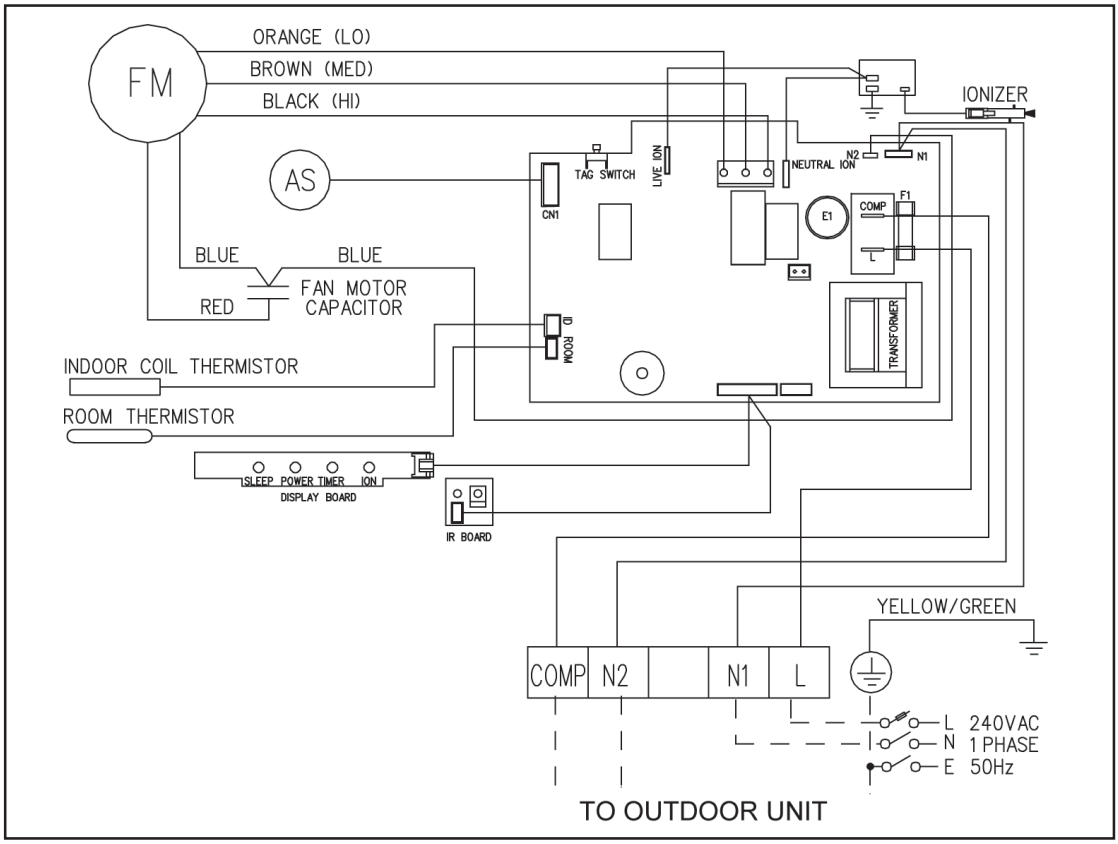
INDOOR UNIT - HEATPUMP
MODEL : MWMS 010FR/ 015FR/ 020FR



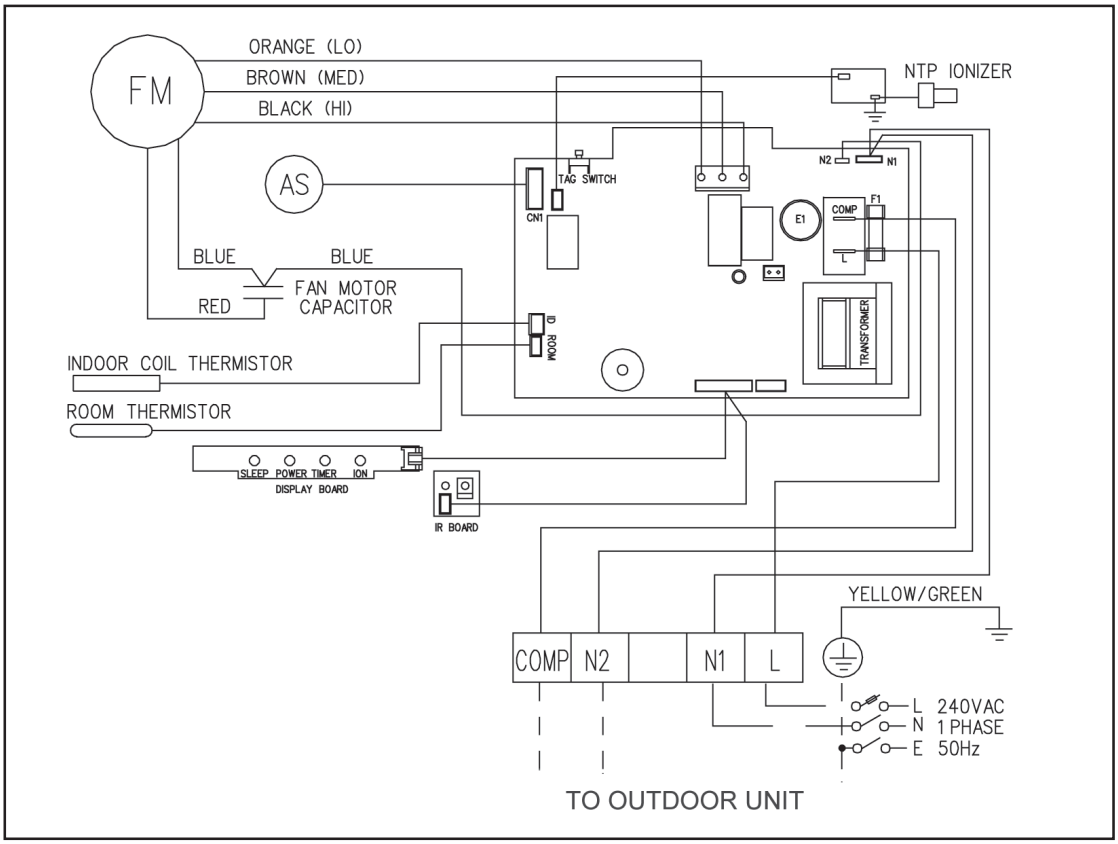
MODEL : MWMS 010FR/ 015FR/ 020FR (AUTO RANDOM RESTART)



INDOOR UNIT - COOLING ONLY
MODEL : MWMS 010/015G (IONIZER)

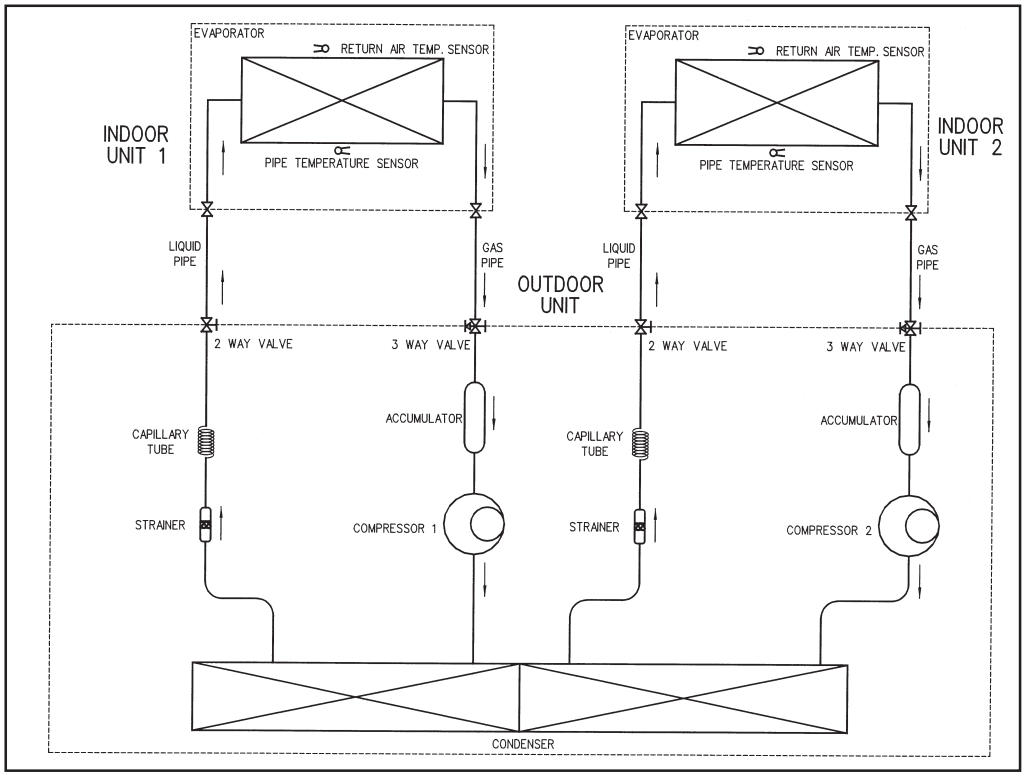


MODEL : MWMS 010/015G (NTP)

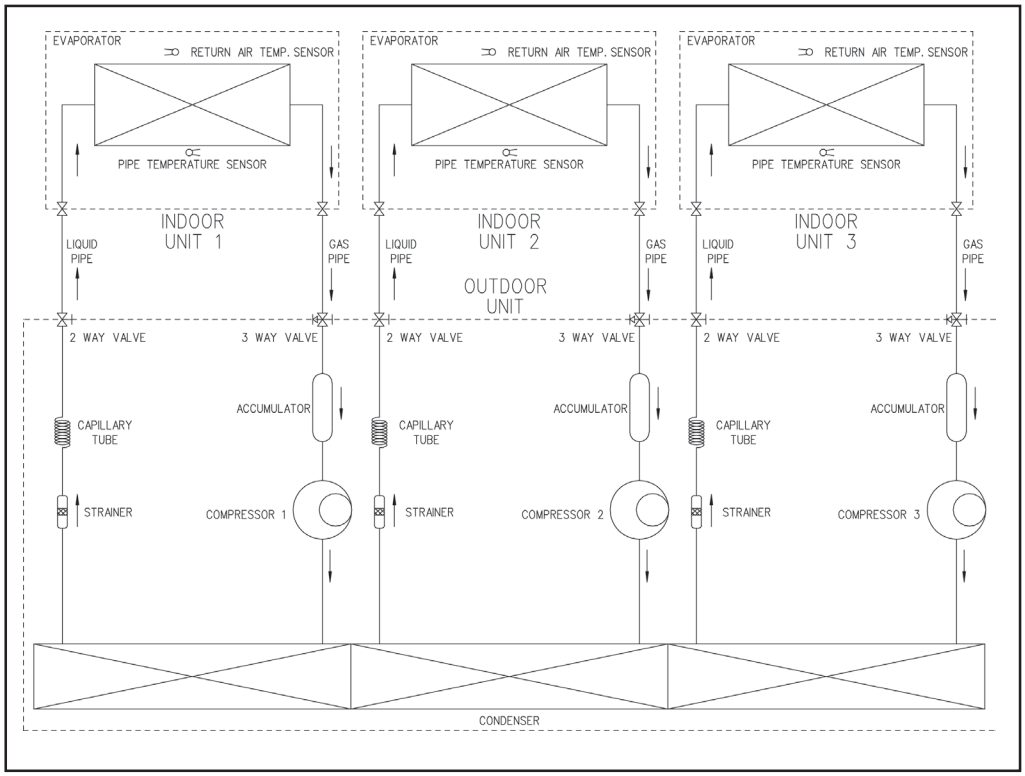


Refrigerant Circuit Diagram

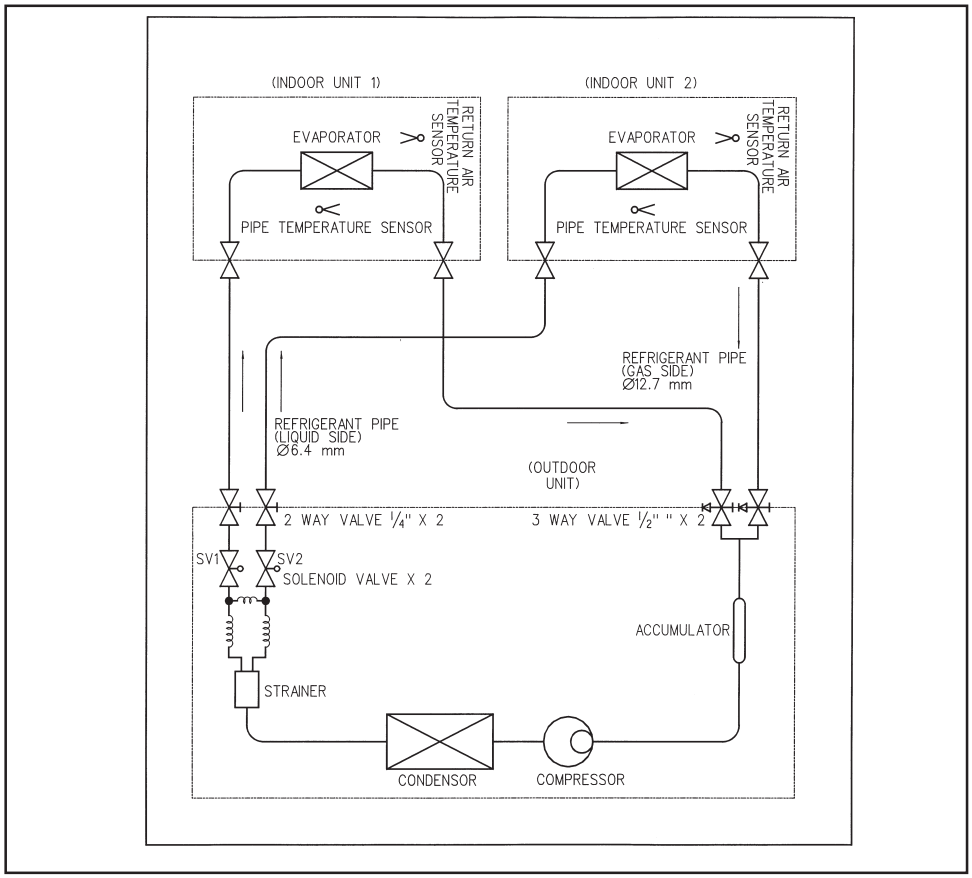
MODEL : MMSD 1010 / 1015 / 1515 / 1020 / 1520 / 2020 A
M4MSD 1010 / 1015 / 1515 A



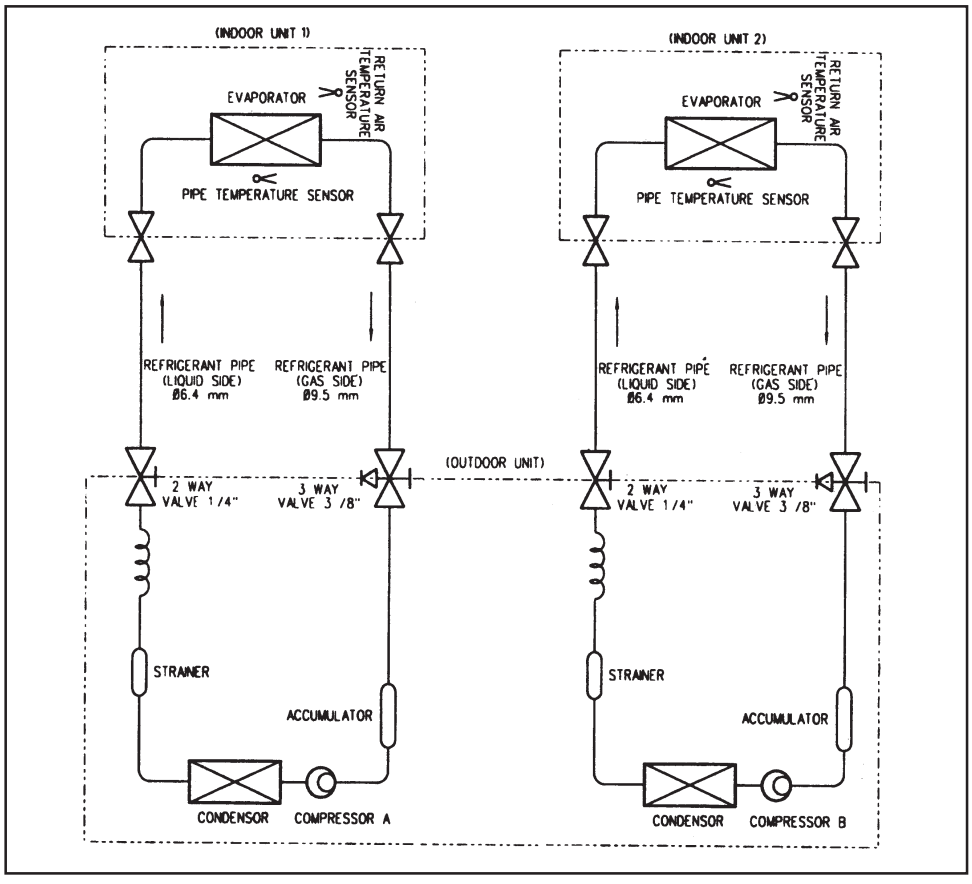
MODEL : MMST/M4MST 101010 / 101015 / 101515 / 151515 A
MMST 101020 / 101025 / 101525 / 151525 A



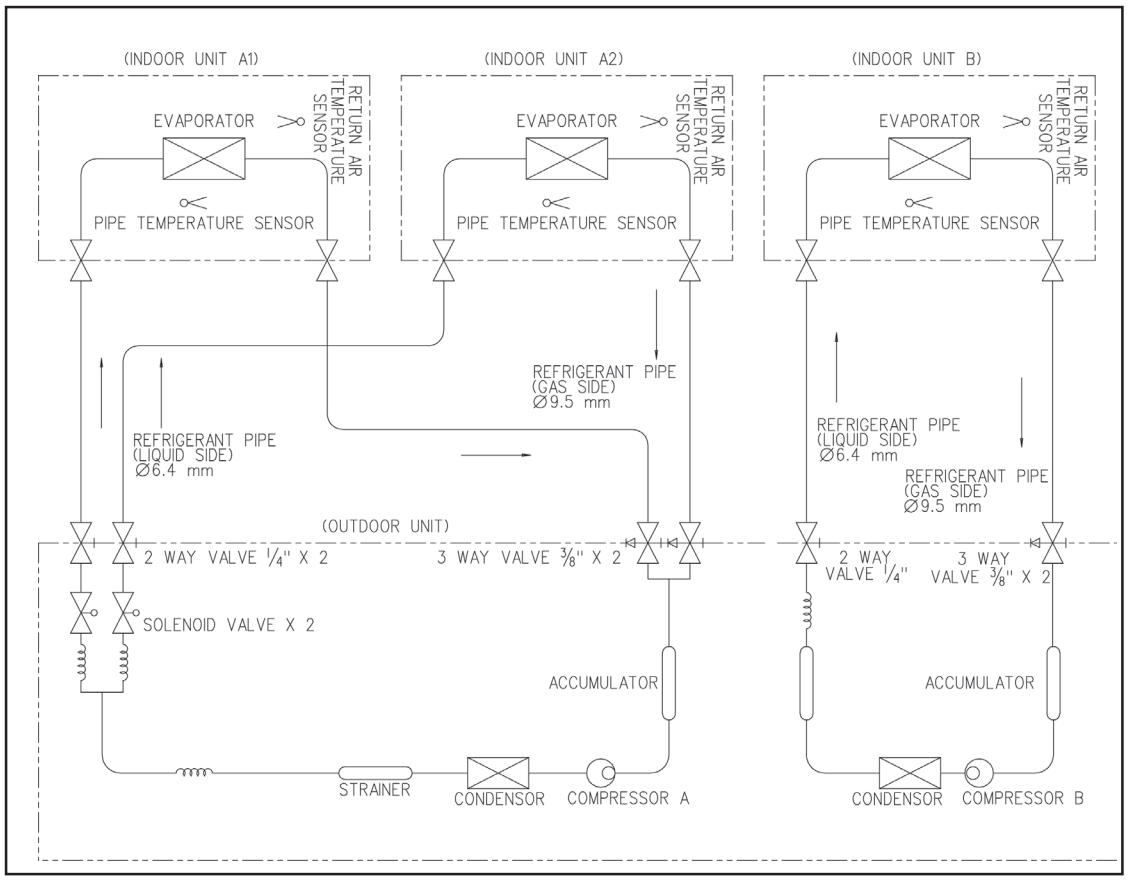
MODEL : MMSHK77A



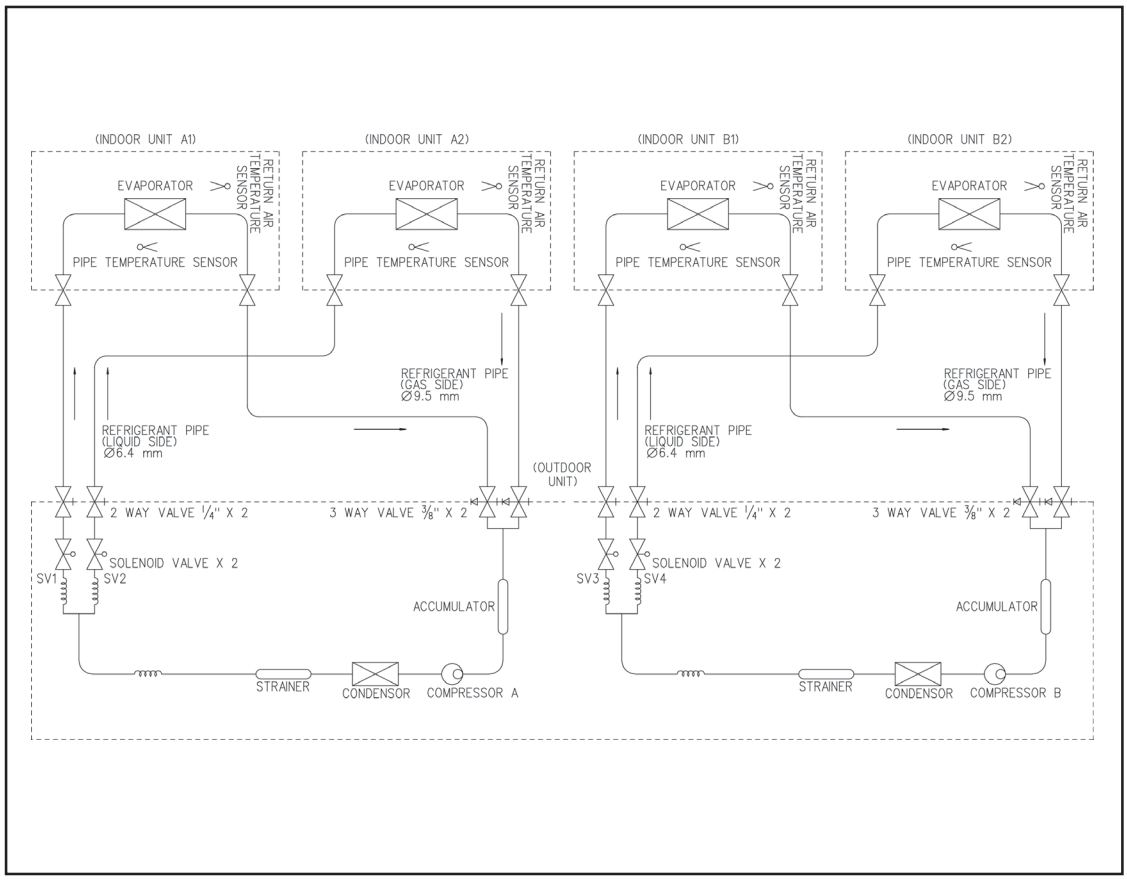
MODEL : MMSH8K8A



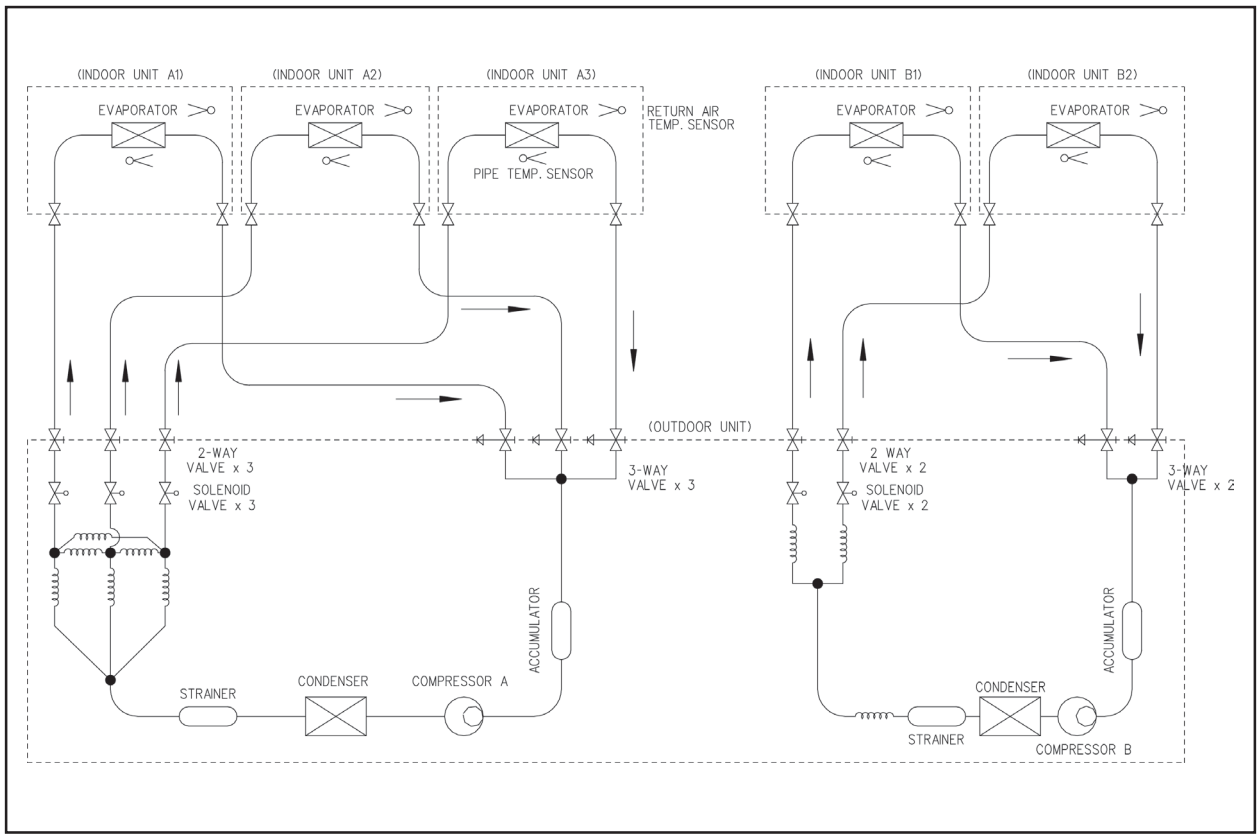
MODEL : MMSH8K66A



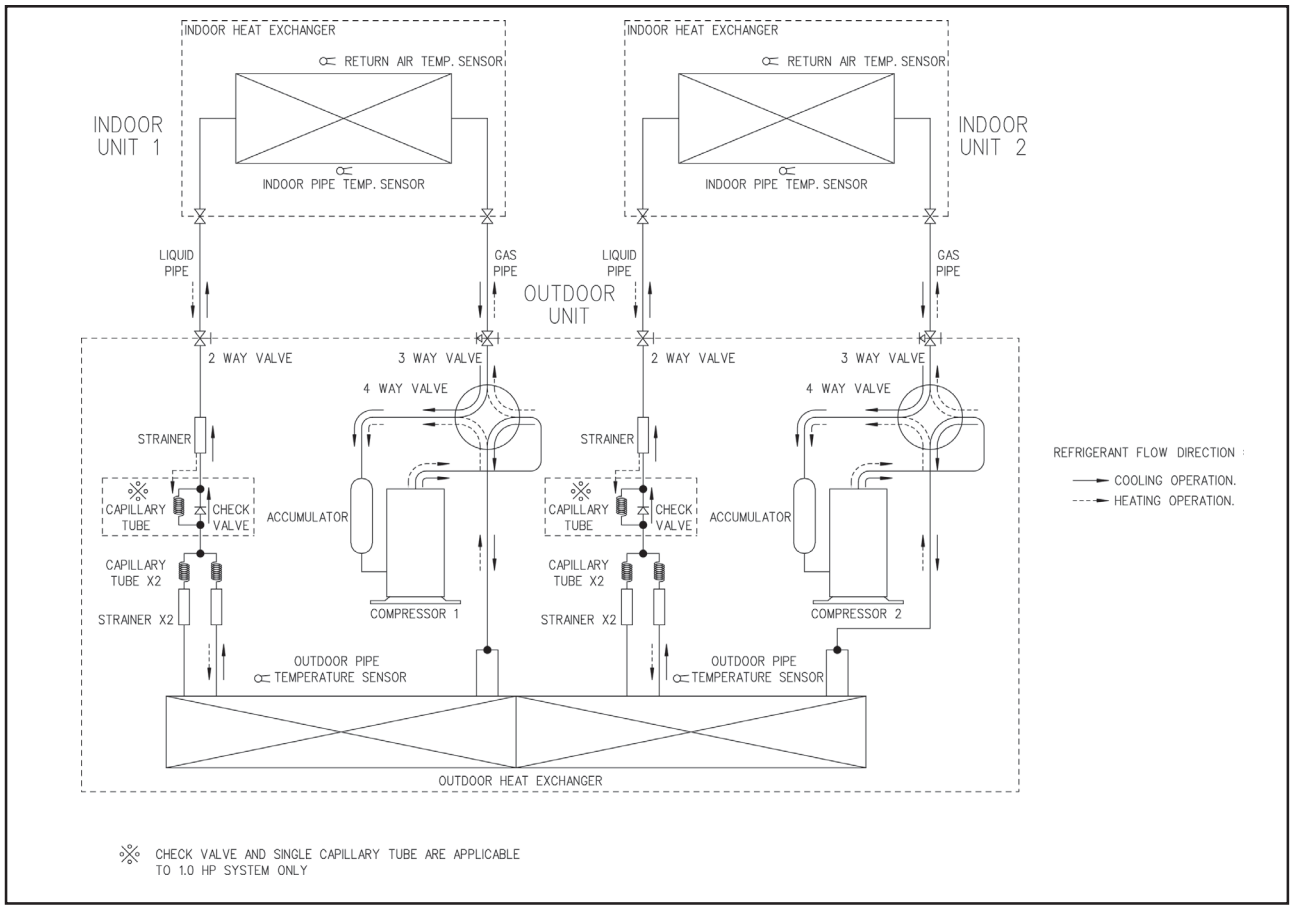
MODEL : MMSH66K66A



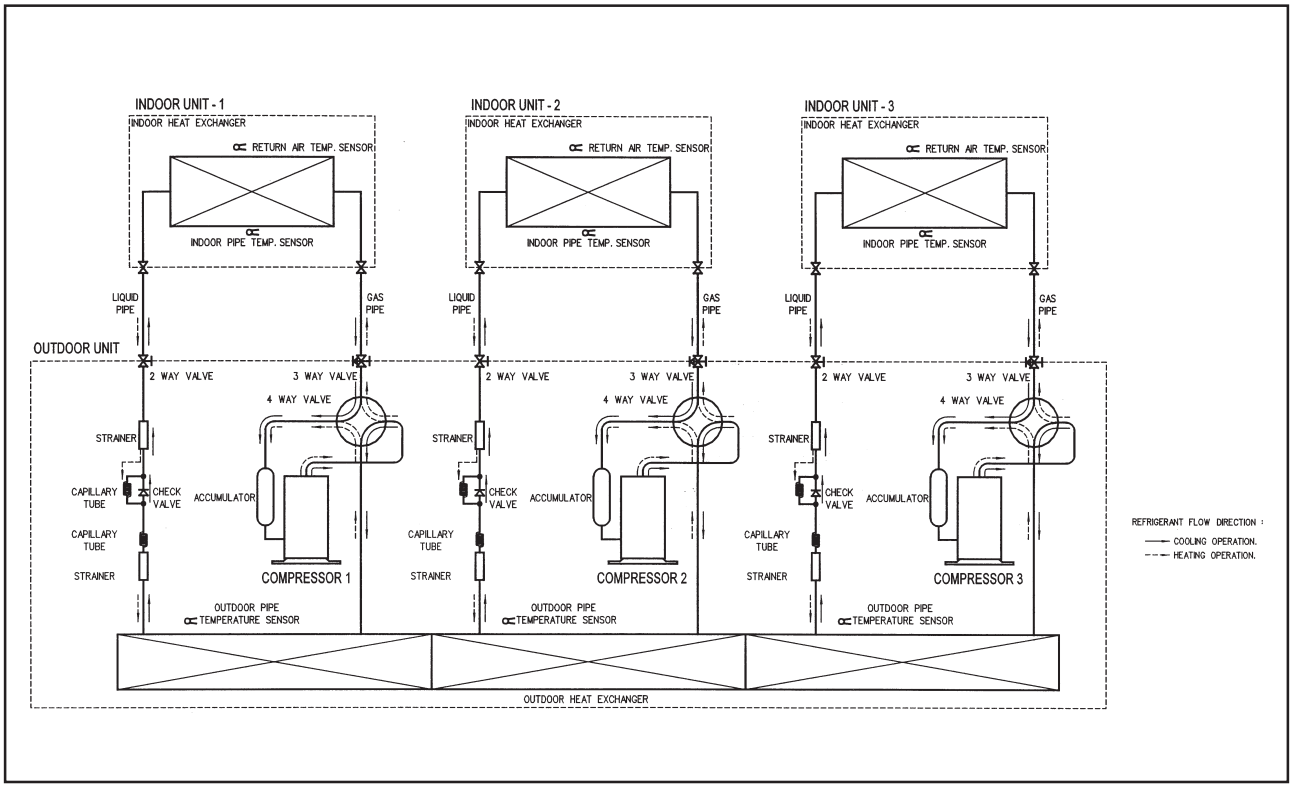
MODEL : MMSH66K555A



MODEL : MMSD/M4MSD 1010 / 1015 / 1515 AR
MMSD 1520AR



MODEL : M4MST 101010 / 101015 / 101515 AR



Special Precautions For R407C

SPECIAL PRECAUTIONS WHEN DEALING WITH REFRIGERANT R407C UNIT

1) WHAT IS NEW REFRIGERANT R407C?

R407C is a zeotropic refrigerant mixture which has Zero Ozone Depletion Potential (ODP = 0) and thus conformed to the Montreal Protocol regulation. It requires Polyol-ester oil (POE) oil for its compressor's lubricant. Its refrigerant capacity and performance are about the same as the refrigerant R22.

2) COMPONENTS

Mixture weight compositionR32(23%), R125(25%), R134a(52%)

3) CHARACTERISTIC

- R407C liquid and vapor components have different compositions when the fluid evaporates or condenses. Hence, when leak occurs and only vapor leaks out, the composition of the refrigerant mixture left in the system will change and subsequently affect the system performance. **DO NOT** add new refrigerant to leaked system. It is recommended that the system should be evacuated thoroughly before recharging with R407C.
- When refrigerant R407C is used, the composition will differ depending on whether it is in gaseous or liquid phase. Hence when charging R407C, ensure that only liquid is being withdrawn from the cylinder or can. This is to make certain that only original composition of R407C is being charged into the system.
- POE oil is used as lubricant for R407C compressor, which is different from the mineral oil used for R22 compressor. Extra precaution must be taken not to expose the R407C system too long to moist air.

4) CHECK LIST BEFORE INSTALLATION/SERVICING

- Tubing
  Refrigerant R407C is more easily affected by dust of moisture compared with R22, make sure to temporarily cover the ends of the tubing prior to installation
- Compressor oil
  No additional charge of compressor oil is permitted.
- Refrigerant
  No other refrigerant other that R407C
- Tools
  Tools specifically for R407C only (must not be used for R22 or other refrigerant)
  i) Gauge manifold and charging hose
  ii) Gas leak detector
  iii) Refrigerant cylinder/charging cylinder
  iv) Vacuum pump c/w adapter
  v) Flare tools
  vi) Refrigerant recovery machine

5) HANDLING AND INSTALLATION GUIDELINES

Like R22 system, the handling and installation of R407C system are closely similar. All precautionary measures; such as ensuring no moisture, no dirt or chips in the system, clean brazing using nitrogen, and thorough leak check and vacuuming are equally important requirements. However, due to zeotropic nature of R407C and its hydroscopic POE oil, additional precautions must be taken to ensure optimum and trouble free system operation.

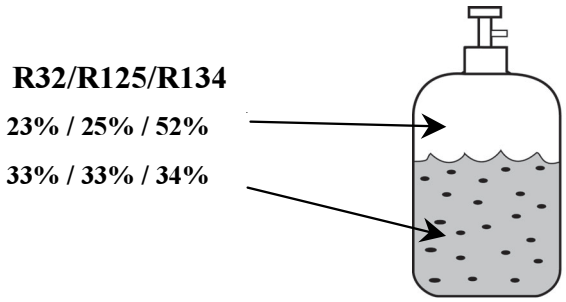
a) Filter dryer must be installed along the liquid line for all R407C air conditioners. This is to minimise the contamination of moisture and dirt in the refrigerant system. Filter dryer must be of molecular sieve type. For a heat pump system, install a two--way flow filter dryer along the liquid line.

b) During installation or servicing, avoid prolong exposure of the internal part of the refrigerant system to moist air. Residual POE oil in the piping and components can absorb moisture from the air.

c) Ensure that the compressor is not expose to open air for more than the recommended time specified by its manufacturer (typically less than 10 minutes). Removed the seal plugs only when the compressor is about to be brazed.

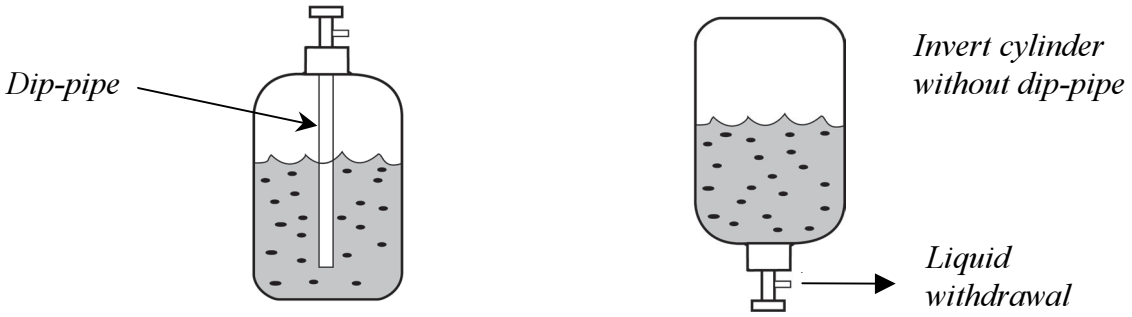
d) The system should be thoroughly vacuumed to 1.0 Pa (700mmHg) or lower. This vacuuming level is more stringent than R22 system so as to ensure no incompressible gas and moisture in the system.

e) When charging R407C, ensure that only liquid is being withdrawn from the cylinder or can. This is to ensure that only the original composition of R407C is being delivered into the system. The liquid composition can be different from the vapor composition.



Composition of R407C in vapour phase is different from liquid phase.

f) Normally, the R407C cylinder or can is being equipped with a dip pipe for liquid withdrawal. However, if the dip pipe is not available, invert the cylinder or can so as to withdraw liquid from the valve at the bottom.



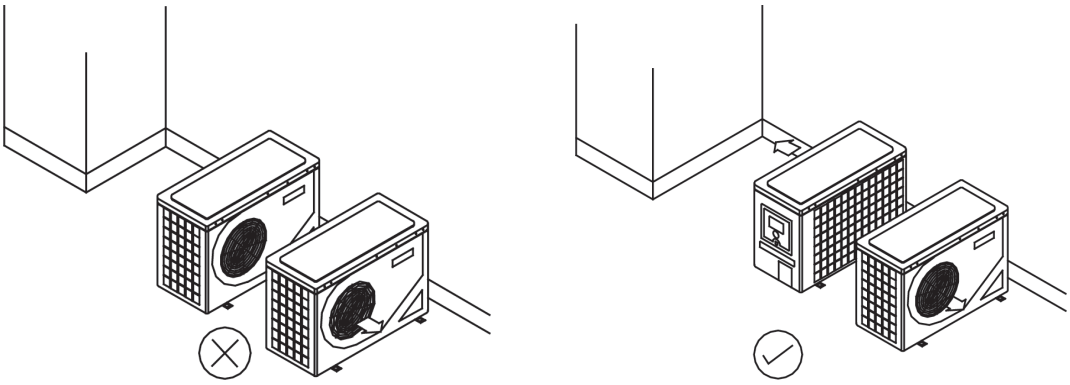
g) When servicing leak, the top up method, commonly practiced for R22 system, is not recommended for R407C system. Unlike R22 where the refrigerant is of a single component, the composition of R407C, which made up of three different components, may have changed during the leak. Consequently, a top up may not ensure that the R407C in the system is of original composition. This composition shift may adversely affect the system performance. It is recommended that the system should be evacuated thoroughly before recharging with R407C.

Installation

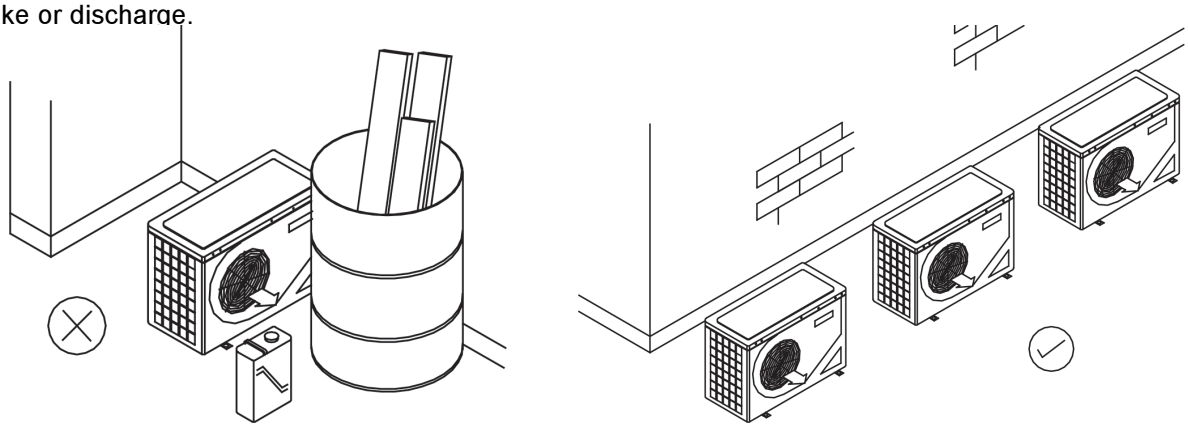
LOCATION FOR INSTALLATION OF THE CONDENSING UNITS

As condensing temperature rises, evaporating temperature rises and cooling capacity drops. In order to achieve maximum cooling capacity, the location selected for outdoor unit should fulfill the following requirements :

Install the condensing (outdoor) unit in a way such that hot air distributed by the outdoor condensing unit cannot be drawn in again (as in the case of short circuit of hot discharge air). Allow sufficient space for maintenance around the unit.



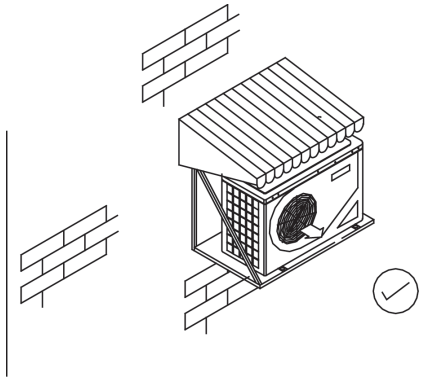
Ensure that there is no obstruction of air flow into or out of the unit. Remove obstacles which block air intake or discharge.



The location must be well ventilated, so that the unit can draw in and distribute plenty of air thus lowering the condensing temperature.

A place capable of bearing the weight of the outdoor unit and isolating noise and vibration.

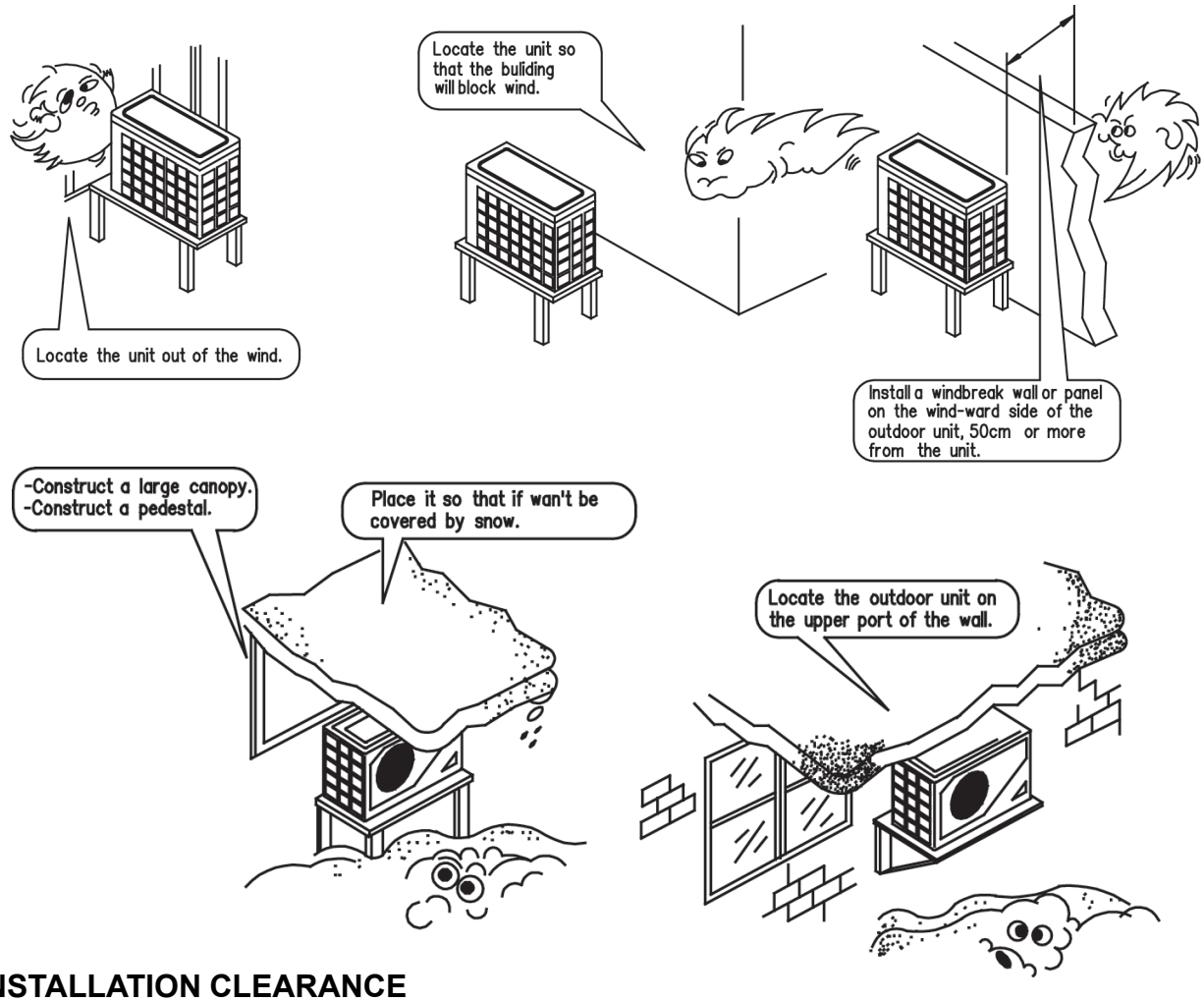
A place protected from direct sunlight. Otherwise use an awning for protection, if necessary.



The location must not be susceptible to dust or oil mist.

CAUTION : If the condensing unit is operated in an atmosphere containing oils (including machine oils), salt (coastal area), sulphide gas (near hot spring, oil refinery plant), such substances may lead to failure of the unit.

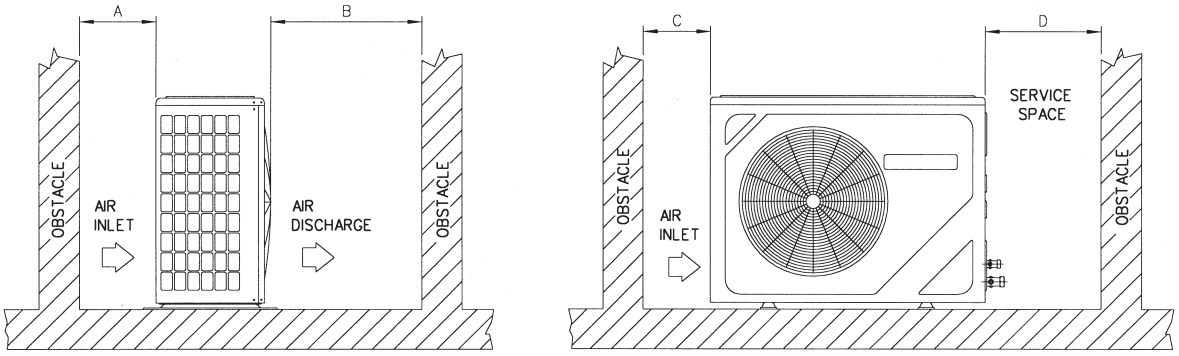
INSTALLATION IN ZONE EXPOSED TO STRONG WIND OR HIGH SNOW FALLS (FOR HEATPUMP MODEL)


Locate the unit so that the buliding will block wind.
Locate the unit out of the wind.
Install a windbreak wall or panel on the wind-ward side of the outdoor unit, 50cm or more from the unit.
-Construct a large canopy.
-Construct a pedestal.
Place it so that if wan't be covered by snow.
Locate the outdoor unit on the upper port of the wall.

INSTALLATION CLEARANCE

SINGLE CONDENSING UNIT INSTALLATION

Outdoor units must be installed such that there is no short circuit of the hot discharge air or obstruction to smooth air flow. Select the coolest possible place where intake air should not be hotter than the outside temperature (max. 45°C)



All Models	A	B	C	D
Minimum Distance	300 mm	1000 mm	300 mm	500 mm

NOTE :- (1) If any obstacle is higher than 2 m, or if there is any obstruction at the upper part of the unit, allow more space than indicated in the table above.

MAXIMUM PIPE LENGTH AND MAXIMUM NUMBER OF BENDS

When the pipe length becomes too long, both the capacity and reliability drop. As the number of bends increases, system piping resistance to the refrigerant flow increases, lowering the cooling capacity. As a result of this, the compressor may become defective. Always choose the shortest path and follow the recommendations as tabulated below :

MODEL / DATA	MMSD / M4MSD		
	1010A - 1515A	1020A - 1520A	2020A
Max. Length (L) m	12 / 12	12 / 15	15 / 15
Max. elevation (H) m	5 / 5	5 / 8	8 / 8
Max. No. of Bends	10 / 10	10 / 10	10 / 10

MODEL / DATA	MMST / M4MST	MMST	
	101010A - 151515A/AR	101020A	101025A - 151525A
Max. Length (L) m	12 / 12 / 12	12 / 12 / 15	12 / 12 / 15
Max. elevation (H) m	5 / 5 / 5	5 / 5 / 8	5 / 5 / 8
Max. No. of Bends	10 / 10 / 10	10 / 10 / 10	10 / 10 / 10

Model	Circuitry	Max. Individual L1 or L2 (m)	*Max. Total L1 + L2 (m)	*Max. Length Difference L1 – L2 (m)	Max. Elevation H (m)	*Max. Height Difference H (m)	*Max. Number of bends
MMSH8K8A	COMP. A	12	-	-	5	-	10
	COMP. B	12	-	-	5	-	10
MMSH8K66A	COMP. A	12 / 12	20	8	5	7	10
	COMP. B	12	-	-	5	-	10
MMSH66K66A	COMP. A	12 / 12	20	8	5	7	10
	COMP. B	12 / 12	20	8	5	7	10
MMSH66K555A	COMP. A	12 / 12	20	8	5	7	10
	COMP. B	12 / 12	20	8	5	7	10

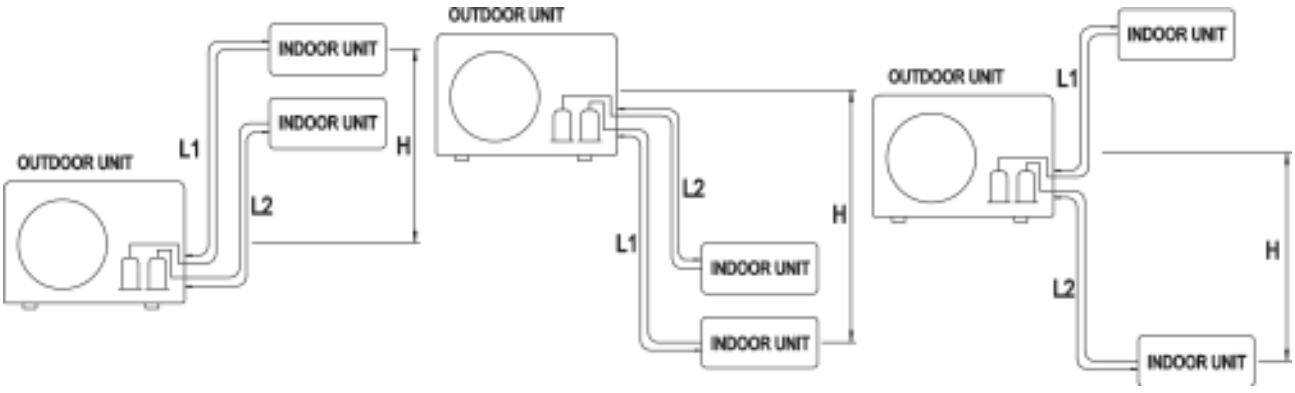
* For units sharing the same compressor only.

CAUTION :

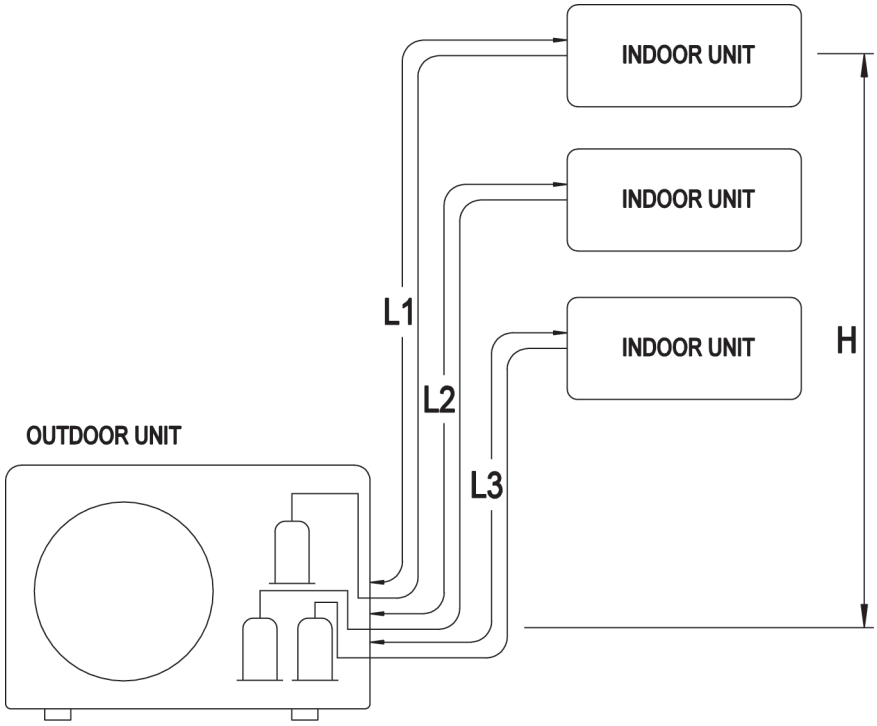
Our guarantee on the performance of our air-conditioners will be revoked if the height, length and/or the number of bends of the refrigerant piping system installed is beyond our recommended limit.

Bendings must be carefully made so as not to crush the pipe. Use a pipe bender to bend a pipe as far as possible.

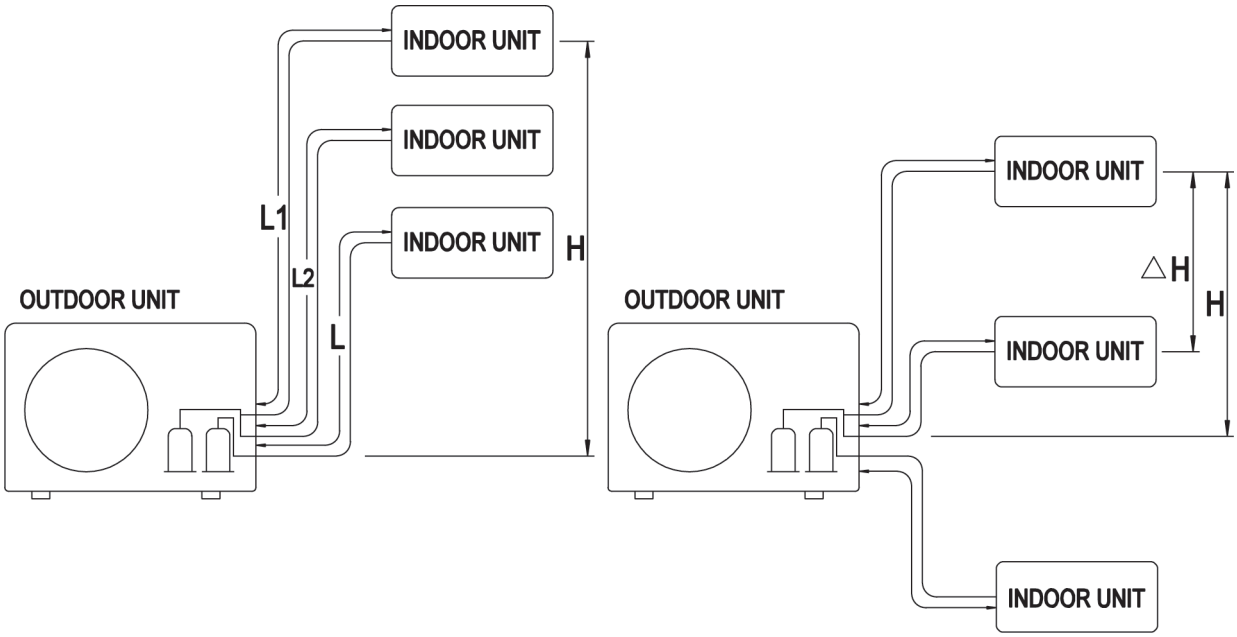
1) MMSD / M4MSD



2) MMST / M4MST

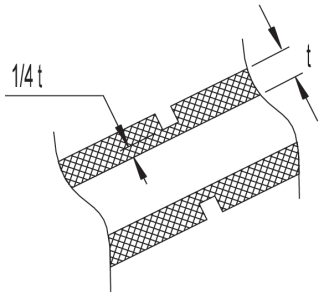


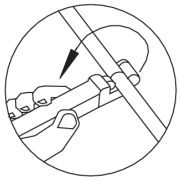
3) MMSH

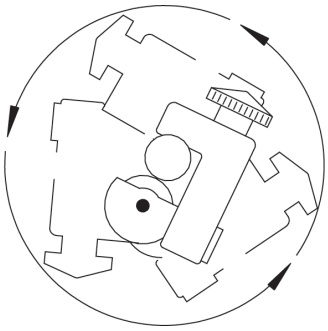


FLARING TECHNIQUE (FOR FLARE CONNECTION)

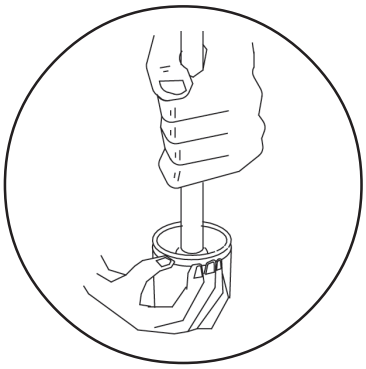
Cut the pipe stages by stages, advancing the blade of pipe cutter slowly. Extra force and a deep cut will cause more distortion of pipe and therefore, extra burr.





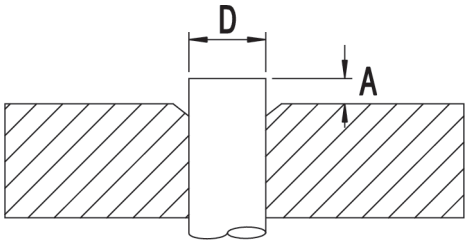


Remove burr with the burr remover. This will avoid unevenness on the flare face which will cause gas leak. Hold the flaring end down to prevent burr from dropping inside pipe.



The exact length of pipe protruding from the face of the flare die is determined by the flaring tool. The table shows the use of an imperial die and riged die.

PIPE Ø (MM)	A(MM)	
	IMPERIAL DIE	RIGED DIE
6.35 (¼")	1.3	0.7
9.52 (3/8")	1.6	1
12.7 (½")	1.9	1.3
15.88 (5/8")	2.2	1.7



Fix the pipe firmly on the flare die. Match the centers of both the flare die and the flaring punch. Tighten flaring punch fully.

VACUUMING AND CHARGING

The pre-charged outdoor unit does not need any vacuuming or charging. However once it is connected, the connecting pipe line and the indoor need to be vacuumed before releasing the R22 from the outdoor unit.

1) Open the service port core cap.
2) Connect pressure gauge to the service port.
3) Connect the line to vacuum pump. Open the charging manifold valve and turn the pump on (Diagram 1). Evacuation time varies by the capacity of the pump but within 1 hour.
4) Repeat step 1 to step 3 for every indoor with respect to the correct pair of flare valve.
5) After evacuation, unscrew the spindle (diagram 2B) for the gas to run to indoor unit.

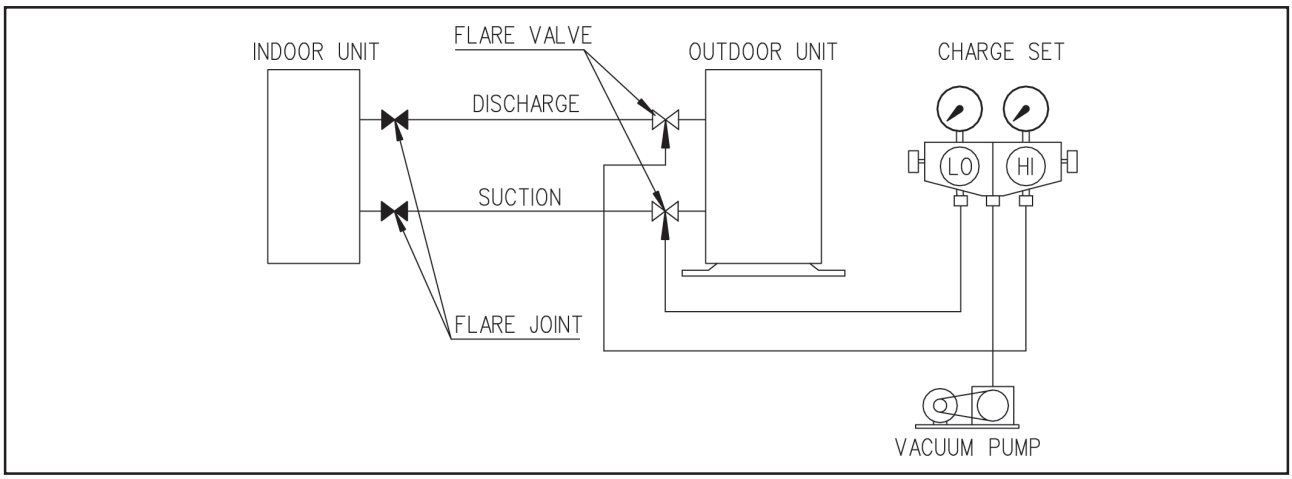


Diagram 1

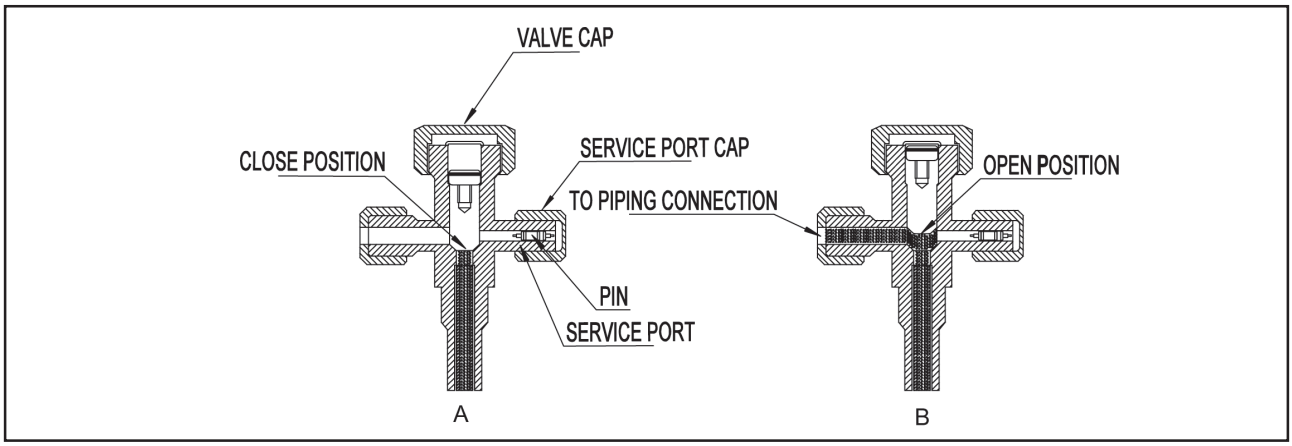


Diagram 2

ADDITIONAL CHARGE (FOR FLARE CONNECTION)

The refrigerant gas is charged in the outdoor unit and, if the piping length to every indoor is 5m, additional charge of the refrigerant after vacuuming is not necessary.

When the piping length to every indoor is more than 5m, please add 15g of refrigerant for every addition of 1m pipe length.

Diagram 3 shows typical charging method.

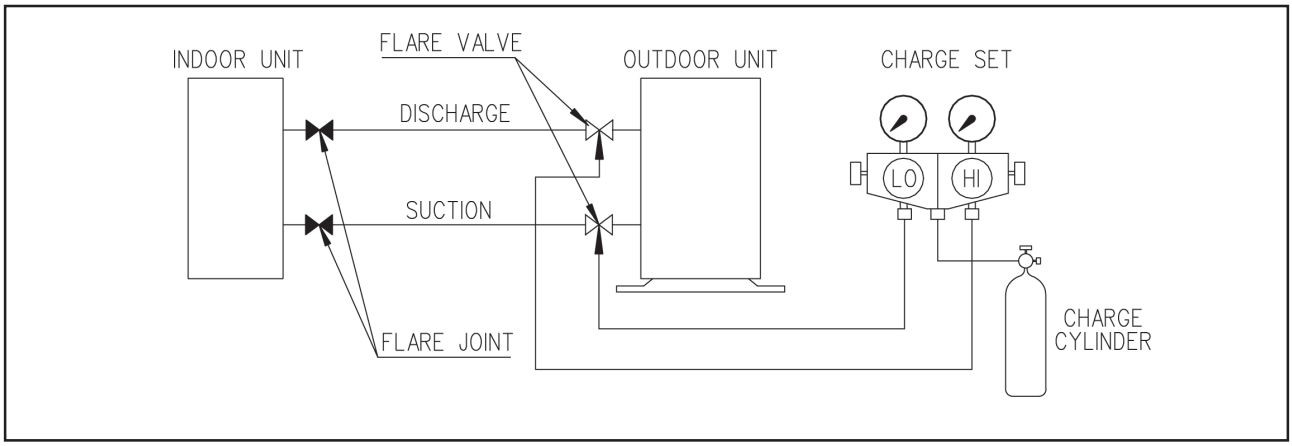
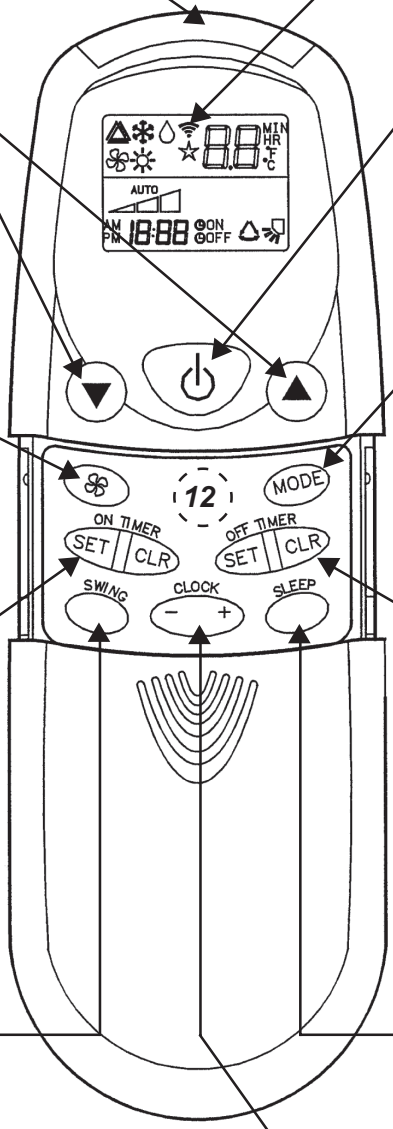


Diagram 3

Remote Controller Operation Guide

G7 Remote Controller



1 Transmission source

- The source where the signal will be transmitted

2 Signal transmission indication

- Blink to confirm the last setting has been send to the unit.

3 On/Off button

- Press once to start the air conditioner.
- Press again to stop the unit.

4 Temperature setting

- To set the desired room temperature, press the button to increase or decrease the set temperature.
- The temperature setting range is from 16°C to 30°C (Optional setting 18°C to 30°C).
- Press both buttons simultaneously to toggle the temperature setting between °C and °F.

5 Operation mode

- Press the MODE button to select the type of operating mode.
- For cooling only unit, the available modes are : COOL, DRY & FAN.
- For heat pump unit, the available modes are : AUTO, COOL, DRY, FAN & HEAT.

6 Fan speed selection

- Press the button until the desired fan speed is achieved.

7 ON timer setting

- Press the SET button will activate the on timer function.
- Set the desired on time by pressing the SET button continuously. If the timer is set to 7.30am, the air conditioner will turn on at 7.30 sharp.
- Press the CLR button to cancel the on timer setting.

8 OFF timer setting

- Press the SET button will activate the off timer function.
- Set the desired off time by pressing the SET button continuously.
- Press the CLR button to cancel the off timer setting.

9 Automatic air swing

- Press the SWING button to activate the automatic air swing function.
- To distribute the air to a specific direction, press the SWING button and wait until the louver move to the desired direction and press the button once again.

10 Sleep mode setting

- Press the button to activate sleep mode. This function is available under COOL, HEAT & AUTO mode.
- When it is activated in COOL mode, the set temperature will be increased 0.5°C after 30mins, 1°C after 1 hour and 2°C after 2 hours.
- When it is activated in HEAT mode, the set temperature will be decreased 1°C after 30mins, 2°C after 1 hour and 3°C after 2 hours.

11 Clock time setting

- Press button + or - to increase or decrease the clock time.

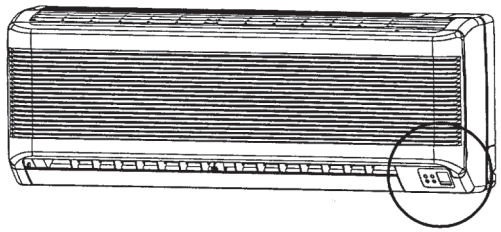
12 Turbo function (optional-only applicable to inverter unit)

- Press button for fast cooling or heating operation.
- The temperature will be increased internally if it is in the HEAT mode, decreased if in COOL or DRY mode. Fan speed will be increased if it is not at maximum speed.
- The temperature & fan speed will resume to user setting if the button is pressed again or after 20mins.
- Available under HEAT, COOL & DRY modes only.

INDICATOR LIGHTS

IR signal receiver

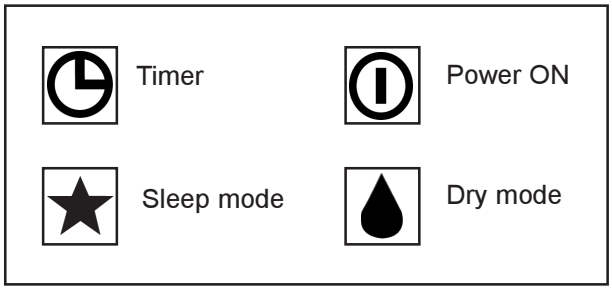
When an operating signal is sent via the infrared remote control, the signal receiver in the indoor unit will make a beep sound signaling acceptance confirmation.



LED Indicator Lights

The table below shows the LED indicator lights for air conditioner unit under normal operation and fault condition. The LED indicator lights are located at the lower right of the air conditioner unit.

Cooling unit : LED Indicator Lights Display

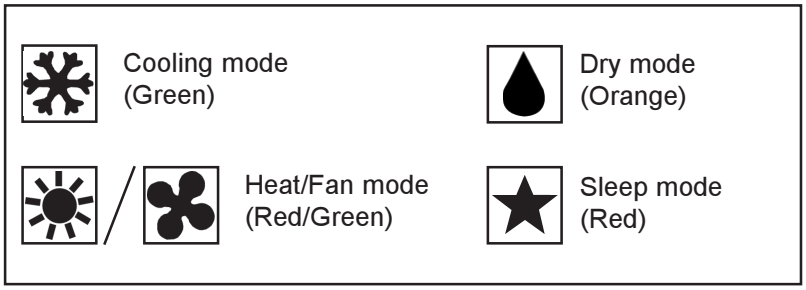


LED Indicator Lights : Normal Operation And Faulty Indication Table

Power	Sleep	Timer	Dry	Operation / Fault Indicator	Action
○		○		Timer on	-
○	○			Sleep mode on	-
○			○	Dry mode	-
◑ Continuously			○/●	Frost prevention mode	Clean the filter and switch to high fan
◑ Once every 2 sec				Room air sensor contact loose / short	Call your dealer
◑ ◑ Twice every 2 sec				Indoor coil sensor contact loose / short	Call your dealer
◑◑◑ 3 times every 2 sec				Outdoor abnormal operation	Call your dealer

○ - ON ○/● - ON or OFF ◑ - Blinking

Heatpump unit : LED Indicator Lights Display



The heat pump unit is equipped with an “auto” mode, whereby the unit will provide reasonable room temperature by switching the unit automatically to either “cool” mode or “heat” mode, according to the temperature setting set by the user.

LED Indicator Lights : Normal Operation And Faulty Indication Table

Cool	Dry	Fan	Heat	Sleep	Operation / Fault Indication	Action
○				○/●	Cooling mode	-
	○				Dry mode	-
		○			Fan mode	-
			○	○/●	Heat mode	-
◑			○	○/●	Auto mode in heating operation	-
○			◑	○/●	Auto mode in cooling operation	-
			◑		Defrost Operation	Call your dealer
◑					Compressor overload protection	Call your dealer
				◑	Indoor coil sensor contact loose / short	Call your dealer
	◑				Outdoor coil sensor contact loose / short	Call your dealer
		◑			Room air sensor contact loose / short	Call your dealer
◑	◑				If the system is in auto or sleep mode, switch to heat or cool mode and turn off the sleep function, turn off the power supply to reset the system, wait for 3 minutes and on the system again	
◑	◑				If the system is in cool or heat mode (with the sleep function off), the sensor may have contact problem, compressor overload protection trip or gas leak.	

○ - ON ○/● - ON or OFF ◑ - Blinking

G11 Remote Controller

Temperature Setting

- To set the desired room temperature, press the button to increase or decrease the set temperature.
- The temperature setting range is from 16°C to 30°C
- Press both buttons simultaneously to toggle the temperature setting between °C and °F

Turbo Mode

- Press the TURBO button to achieve the required set temperature in a short time.

Sleep Mode

- Press the button to activate sleep mode. This function is available under COOL, HEAT & AUTO mode.
- When it is activated in COOL mode, the set temperature will be increased 0.5°C after 30mins, 1°C after 1 hour and 2°C after 2 hours.
- When it is activated in HEAT mode, the set temperature will be decreased 1°C after 30mins, 2°C after 1 hour and 3°C after 2 hours.

ON Timer Setting

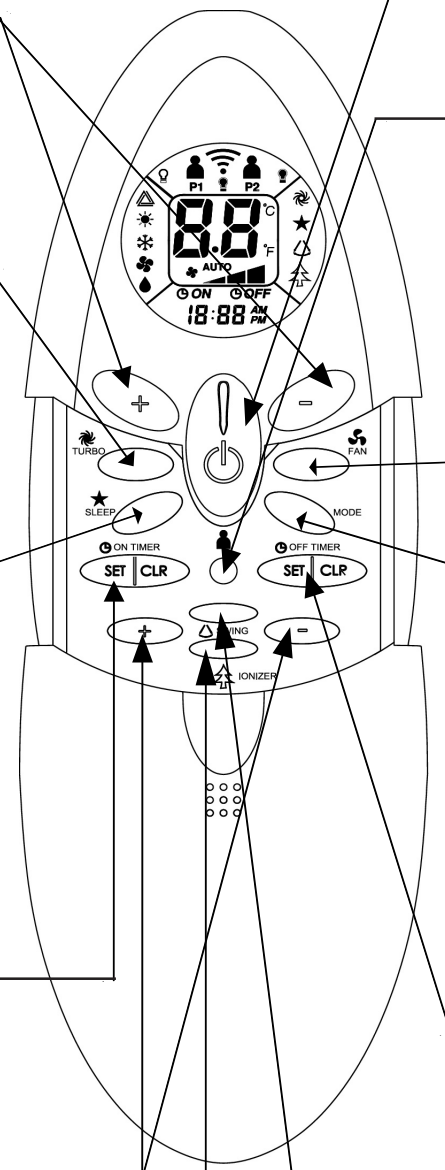
- Press the SET button will activate the on timer function.
- Set the desired on time by pressing the SET button continuously.
- Press the CLR button to cancel the off timer setting

Clock Time Setting

- Press button + or - to increase or decrease the clock time.

Ionizer

- Press the button to activate the negative Ion function, which will refresh the indoor air effectively.



On/Off Button

- Press Once to start the air conditioner
- Press again to stop the unit

Personalised Setting

- Press and hold the button for 3s to initiate personalized setting.
- Set the individual setting e.g. MODE, SET TEMP or FAN SPEED and leave for 4s to save
- 2 groups of settings are allowed to stored in the handset

Fan Speed Selection

- Press the button until the desired fan speed is achieved.

Operating Mode

- Press the MODE button to select the type of operating mode.
- For Cooling only unit, the available modes are: COOL, DRY & FAN.
- For Heatpump unit, the available modes are: AUTO, COOL, DRY, FAN & HEAT.

OFF Timer Setting

- Press the SET button will activate the off timer function.
- Set the desired off time by pressing the SET button continuously.
- Press the CLR button to cancel the off timer setting

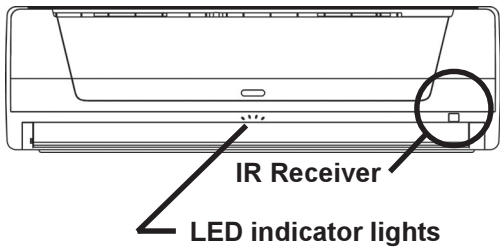
Automatic Air Awing

- Press the SWING button to activate the automatic air swing function.
- To distribute the air to a specific direction, press the SWING button and wait until the louver move to the desired direction and press the button once again.

INDICATOR LIGHTS

IR signal receiver

When an operating signal is sent via the infrared remote control, the signal receiver in the indoor unit will made a beep sound signaling acceptance confirmation.



The table below shows the LED indicator lights for air conditioner unit under normal operation and fault condition. The LED indicator lights are located at the middle of the air conditioner unit.

The heat pump unit is equipped with an “auto” mode, whereby the unit will provide reasonable room temperature by switching the unit automatically to either “cool” mode or “heat” mode, according to the temperature setting set by the user.

LED Indicator Lights Display

COOL / HEAT		TIMER	
IONIZER		SLEEP MODE	

LED Indicator Lights : Normal Operation And Faulty Indication Table

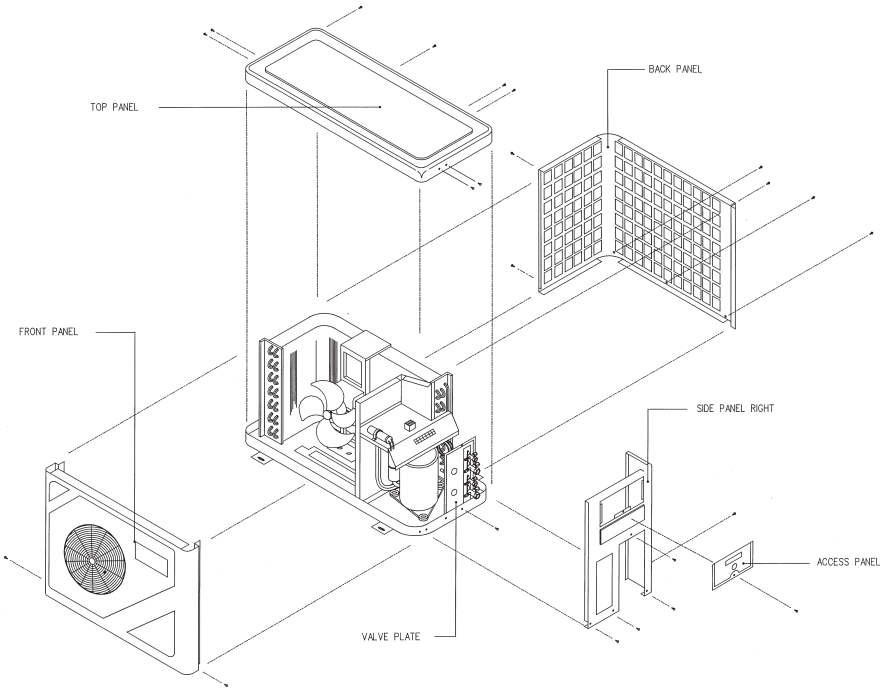
	COOL/HEAT (GREEN/RED)			Normal Operation / Fault Indication	Action
○/●	○ Green		○/●	Cool mode	-
○/●	○ Red		○/●	Heat mode	-
○/●	○ Red ◑ Green			Auto mode in heating operation	-
○/●	○ Green ◑ Red			Auto mode in cooling operation	-
	○	○		Timer on	-
○	○			Sleep mode on	-
	○		○	Ionizer on	-
		◑		Room air sensor contact Loose / Short Outdoor coil sensor contact Loose / Short	Call your dealer
◑		◑		Indoor coil sensor contact Loose / Short	Call your dealer
	◑	◑		Compressor overload protection trip or gas leask	Call your dealer
	◑ Red			Defrost operation	-

○ - ON ○/● - ON or OFF ◑ - Blinking

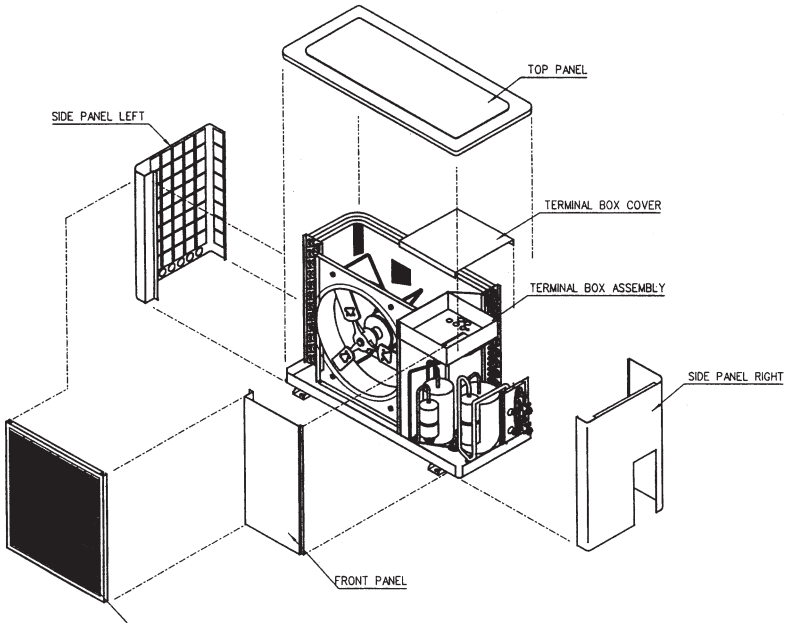
Servicing And Maintenance

The design of the M(4)MSD, M(4)MST, and MMSH outdoor series allows servicing to be carried out readily and easily. The removal of the top, side, front and back panel make almost every part accessible.

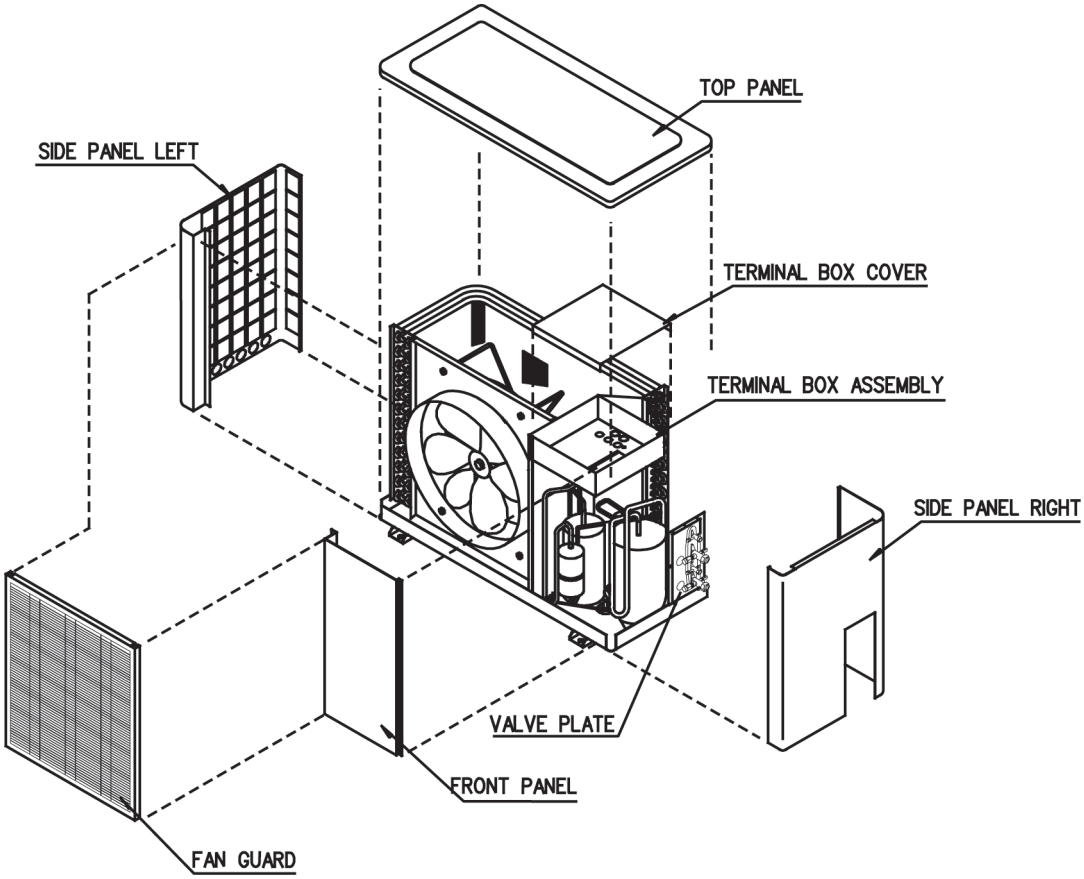
MODEL : Cooling - MMSD/M4MSD 1010 / 1015 / 1515 A
Heatpump - MMSD/M4MSD 1010 / 1015 / 1515 AR
Cooling - MMSH 8K8 / 8K66 / 66K66 / 66K555 / K77 A



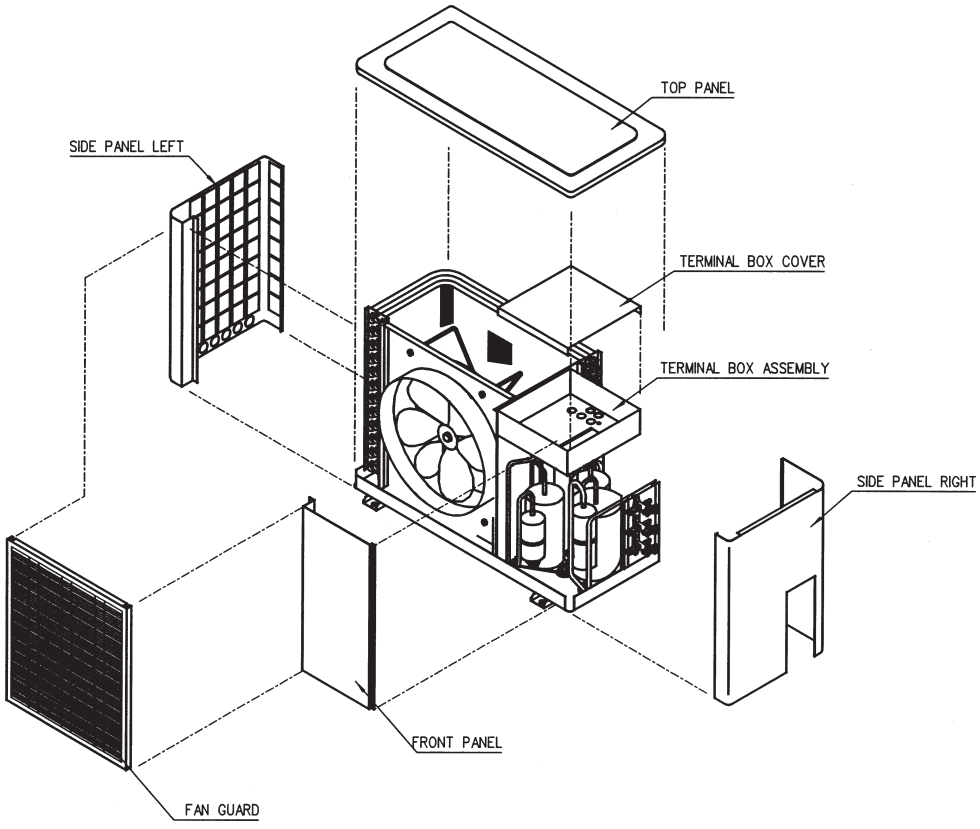
MODEL : Cooling - MMSD1020 / 1520A
Heatpump - MMSD1520AR



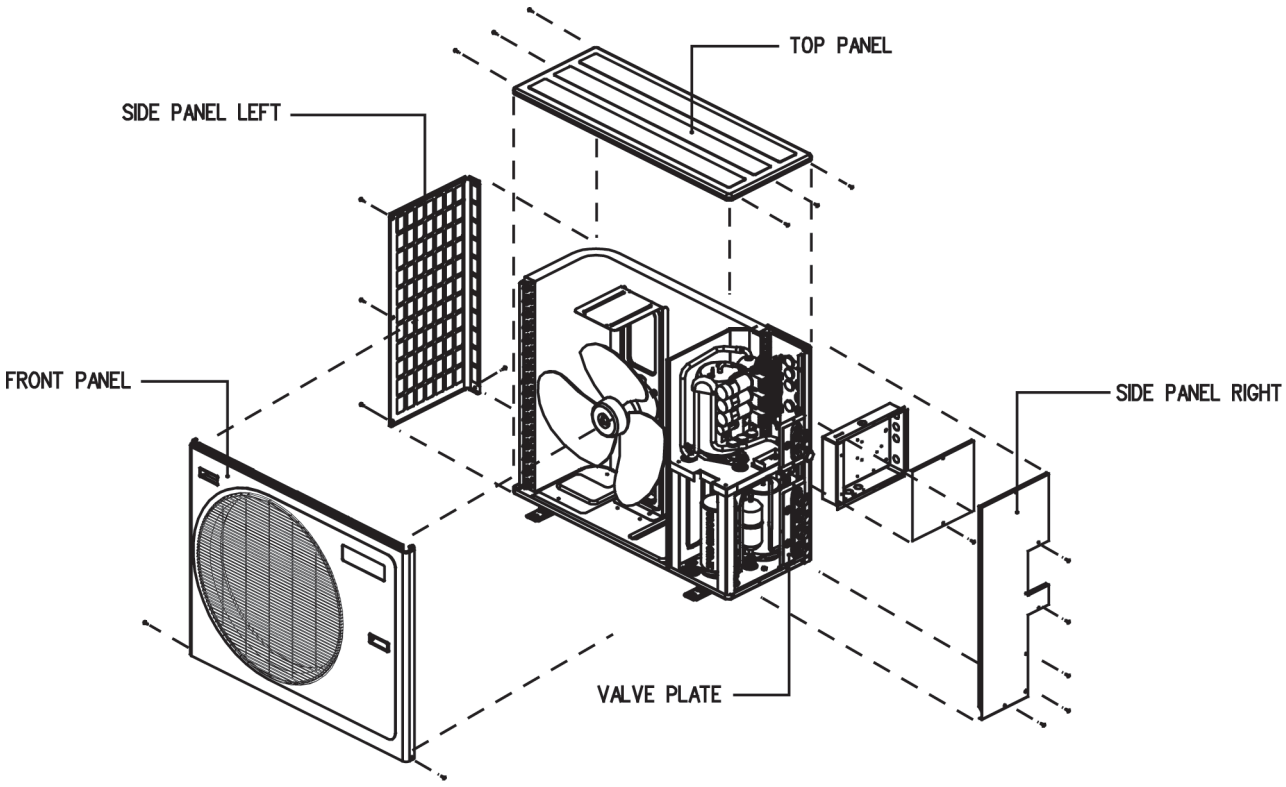
MODEL : MMSD 2020A



MODEL : MMST 101010 / 101015 / 101515 / 151515 / 101020 A
M4MST 101010 / 101015 / 101515 / 151515 A/AR



MODEL : MMST 101025 / 101525 / 151525 A



Under normal circumstance, these outdoor units require a check and cleaning of air intake coil surface once quarterly. However, if a unit is installed in areas subjected to much oil mist and dust, the coils must be regularly cleaned by qualified Air Conditioner Service Technicians to ensure sufficient heat exchange and proper operation. Otherwise, the system's life span may be shortened.

CAUTION!

Do not charge OXYGEN, ACETYLENE OR OTHER FLAMMABLE and poisonous gases into the unit when performing a leakage test or an airtight test. These gases could cause severe explosion and damage if exposed to high temperatures and pressures.

It is recommended that only nitrogen or refrigerant be charged when performing the leakage or airtight test.

Operation

ELECTRICAL CONNECTIONS
Wiring regulations on wire diameters differ from country to country. Please refer to your LOCAL ELECTRICAL CODES for field wiring rules. Be sure that installation comply with such rules and regulations.

GENERAL PRECAUTIONS
Ensure that the rated voltage of the unit corresponds to the name plate before carrying out proper wiring according to the wiring diagram.

Provide a power outlet to be used exclusively for each unit. A power supply disconnect and a circuit breaker for over current protection should be provided in the exclusive line.

All wiring must be firmly connected.

All wiring must not touch the refrigerant piping, compressor or any moving parts of fan motors.

OPERATIONAL CHECK
After all wiring is completed and the system is charged with refrigerant, make sure that unit is operating properly. Check that :

- Condenser fan is running, with warm air blowing off the condensing unit.
- Evaporator blowers are running and discharging cool air.
- The micro-computer system incorporate a 3-minute delay in the circuitry. Thus, it requires about 3 minutes upon cut off before the outdoor condensing unit can start up.
- To check if there is any miswiring, turn on one unit at a time.
- After running for 10-15 minutes. Check if the suction (low side) pressure is within normal operating range.

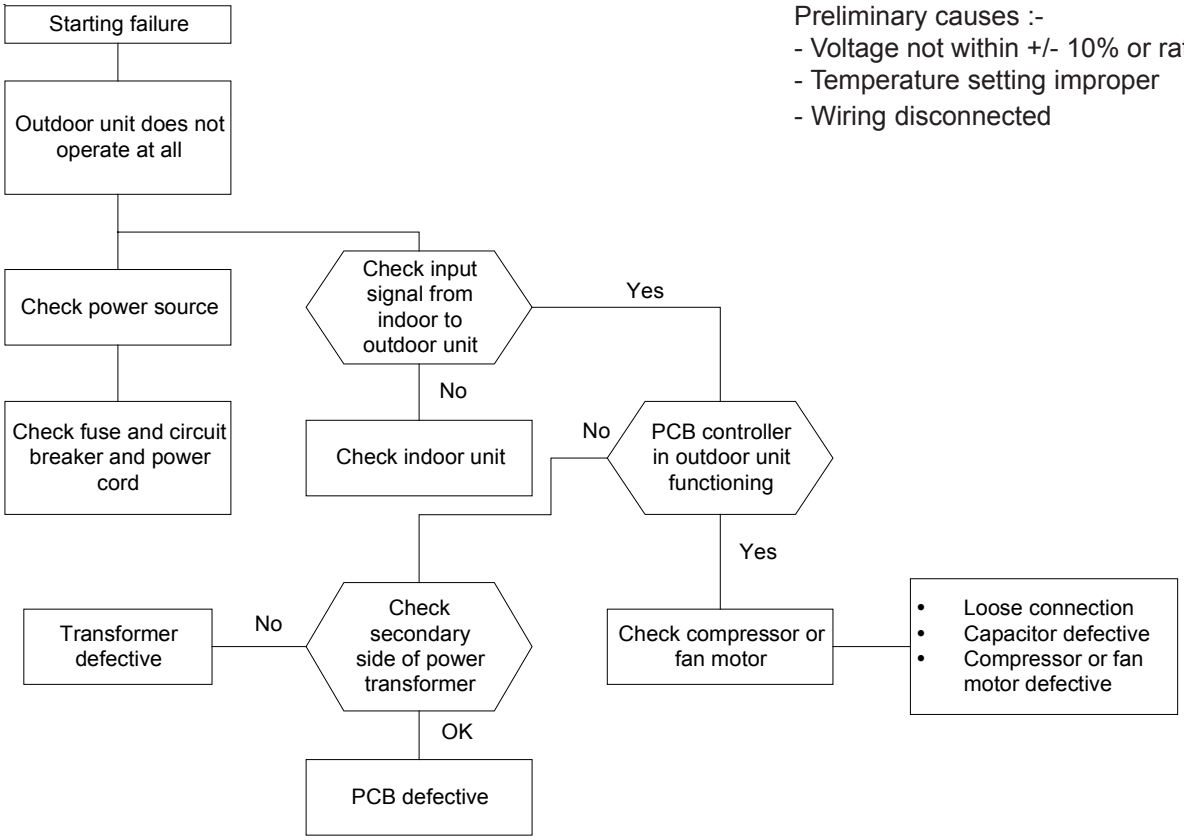
Troubleshooting

When any air conditioner malfunction is noted, immediately switch off the power supply to the unit and contact the local dealer, if necessary. Some simple troubleshooting tips are given below :

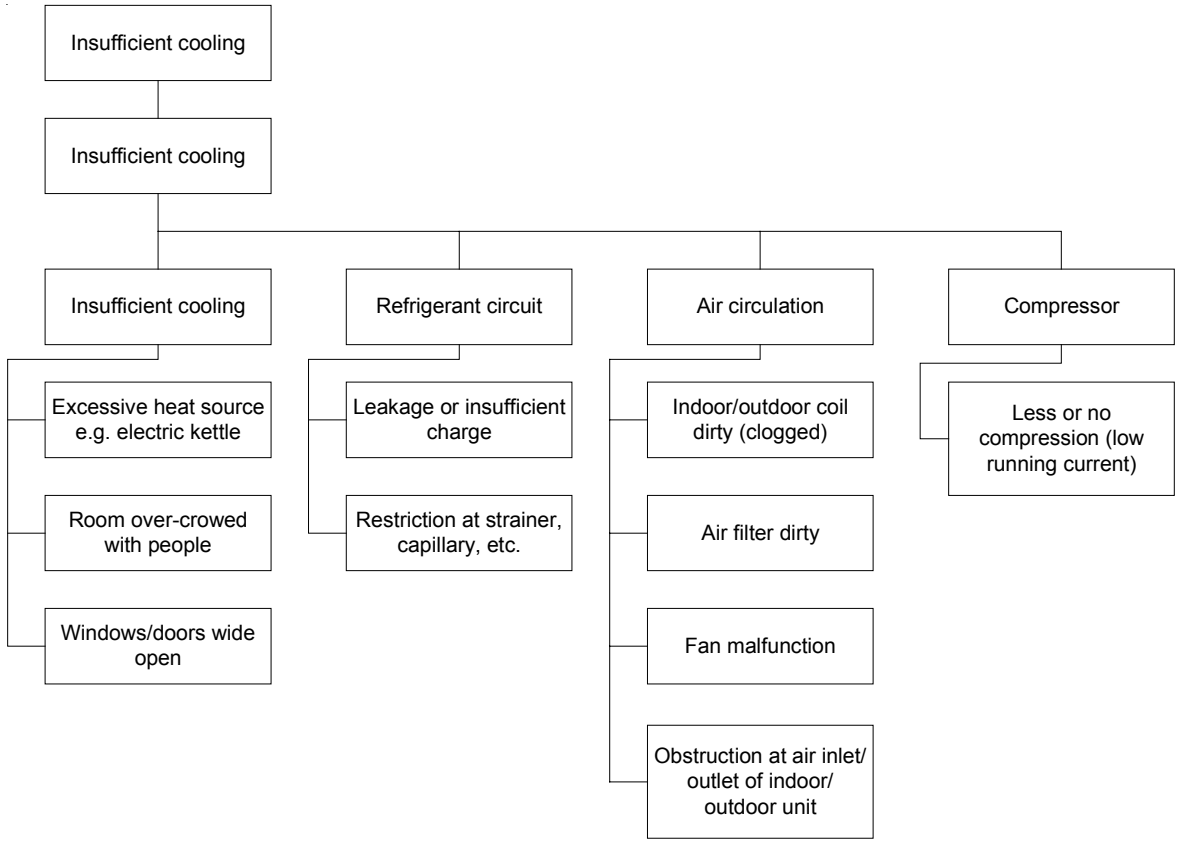
TROUBLE	PROBABLE CAUSE	SUGGESTED ACTION
1. Fan does not work	1. No power supply 2. Fan capacitor faulty 3. Fan motor faulty 4. Switch faulty	1. Check power supply 2. Contact local dealer 3. Contact local dealer 4. Change switch
2. Fan works, but compressor does not work	1. Thermostat setting too high 2. Compressor capacitor faulty 3. Compressor faulty 4. Compressor contactor faulty	1. Reset thermostat 2. Contact local dealer 3. Contact local dealer 4. Contact local dealer
3. Both fan and compressor does not work	1. Power failure 2. Starter trip 3. Fuse blown in power switch or operating unit	1. Operate when power supply resume 2. Reset starter 3. Check and replace fuse
4. Air-Conditioner works but cooling not satisfactory	1. Thermostat setting too high 2. Door and/or windows not closed 3. Condenser coil dirty 4. Some objects blocking the inlet and/or outlet of the unit 5. Refrigerant charge too low	1. Reset thermostat 2. Close door and/or windows 3. Clean condenser coil 4. Remove the objects 5. Contact local dealer

Generally, there are two kinds of common problems, i.e. starting failure and insufficient cooling. "Starting failure" is caused by electrical defect while "insufficient cooling" is caused by improper application or defects in refrigerant circuit.

DIAGNOSIS OF STARTING FAILURE

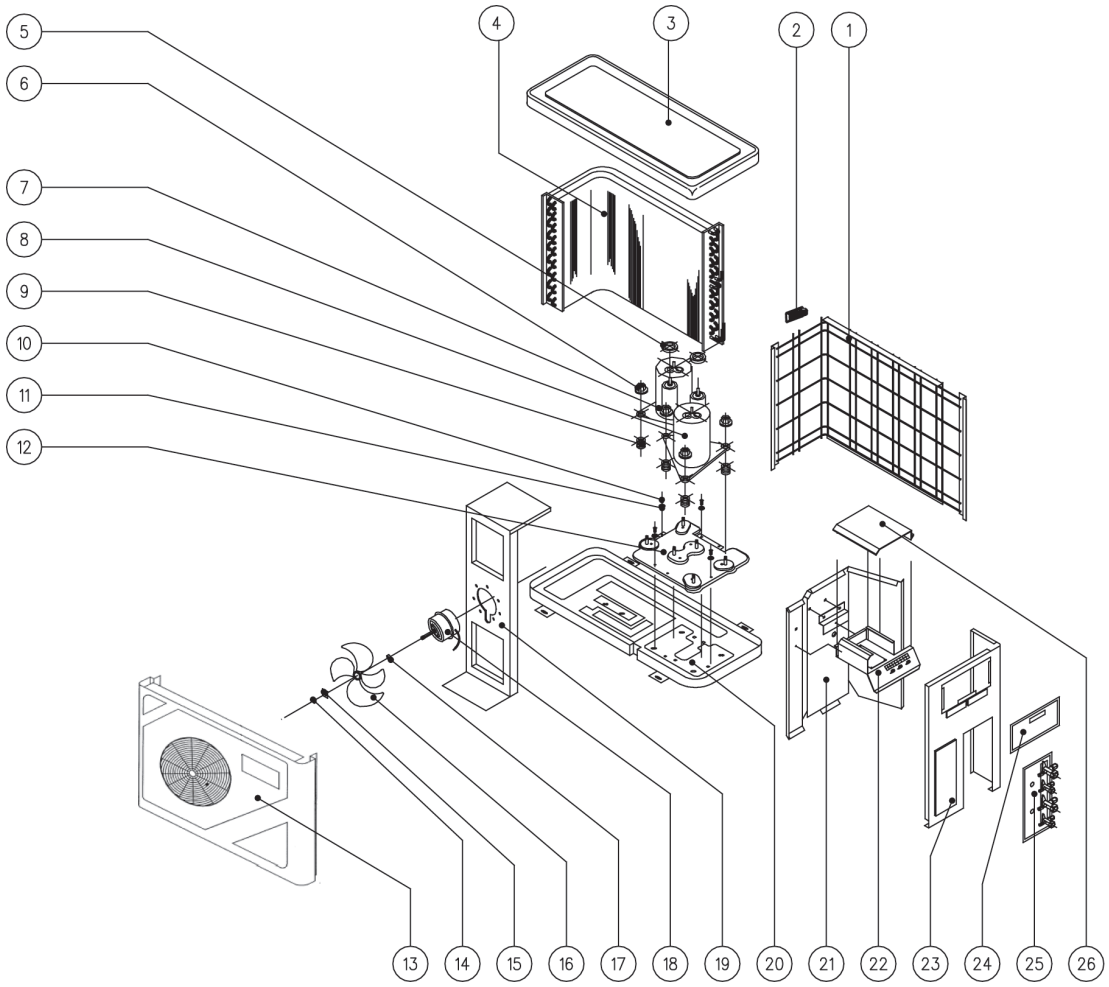


DIAGNOSIS OF INSUFFICIENT COOLING



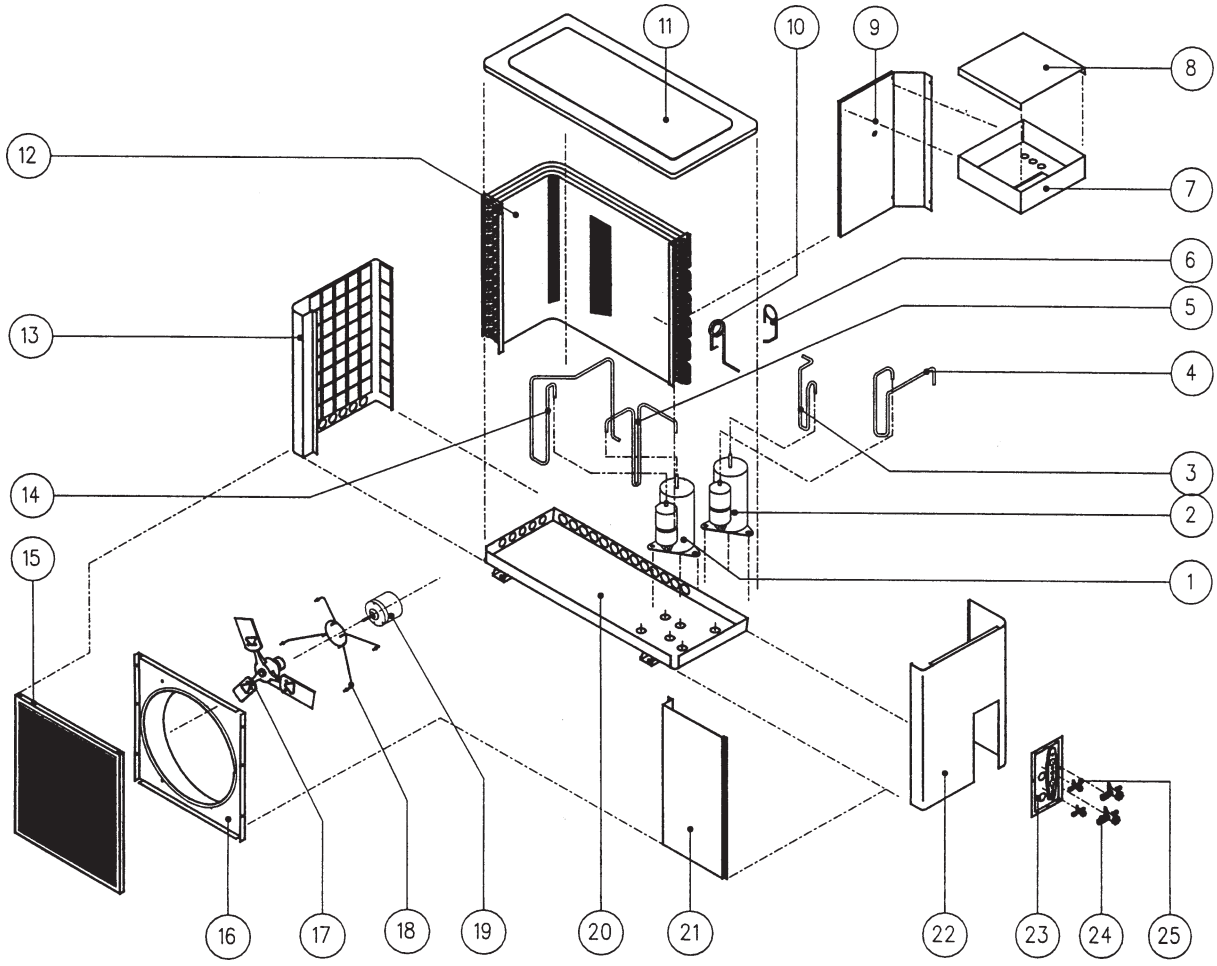
Part List

MODEL : MMSD / M4MSD 1010 / 1015 / 1515 A/AR



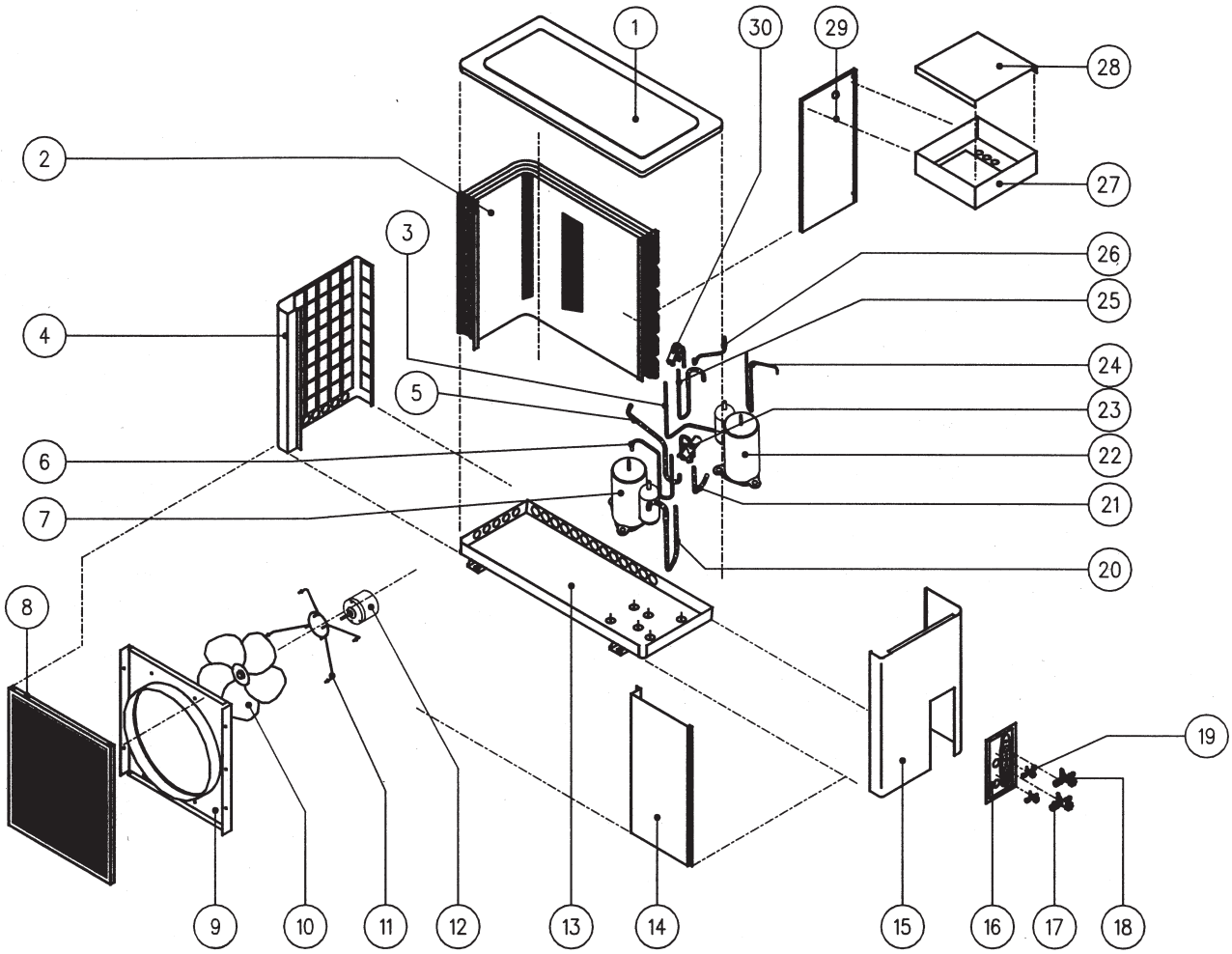
1. BACK PANEL	14. HEX NUT 3/8”
2. HANDLING HANDLE	15. SQUARE WASHER
3. TOP PANEL	16. FAN BLADE
4. CONDENSER COIL ASSEMBLY	17. RING WASHER
5. COMPRESSOR NUT M8	18. FAN MOTOR
6. FLAT WASHER	19. FAN MOTOR BRACKET
7. ROTARY COMPRESSOR 2	20. BASE PAN ASSEMBLY
8. ROTARY COMPRESSOR 1	21. PARTITION ASSEMBLY
9. RUBBER GROMMET	22. TERMINAL BOX PANEL WIRING ASSEMBLY
10. TRUSS HEAD PHILIP SCREW	23. SIDE PANEL
11. SPRING WASHER	24. ACCESS PANEL
12. MOUNTING PLATE ASSEMBLY	25. FLARE VALVE MOUNTING PLATE ASSEMBLY
13. FRONT PANEL	26. TERMINAL BOX COVER

MODEL : MMSD 1020A / 1520A



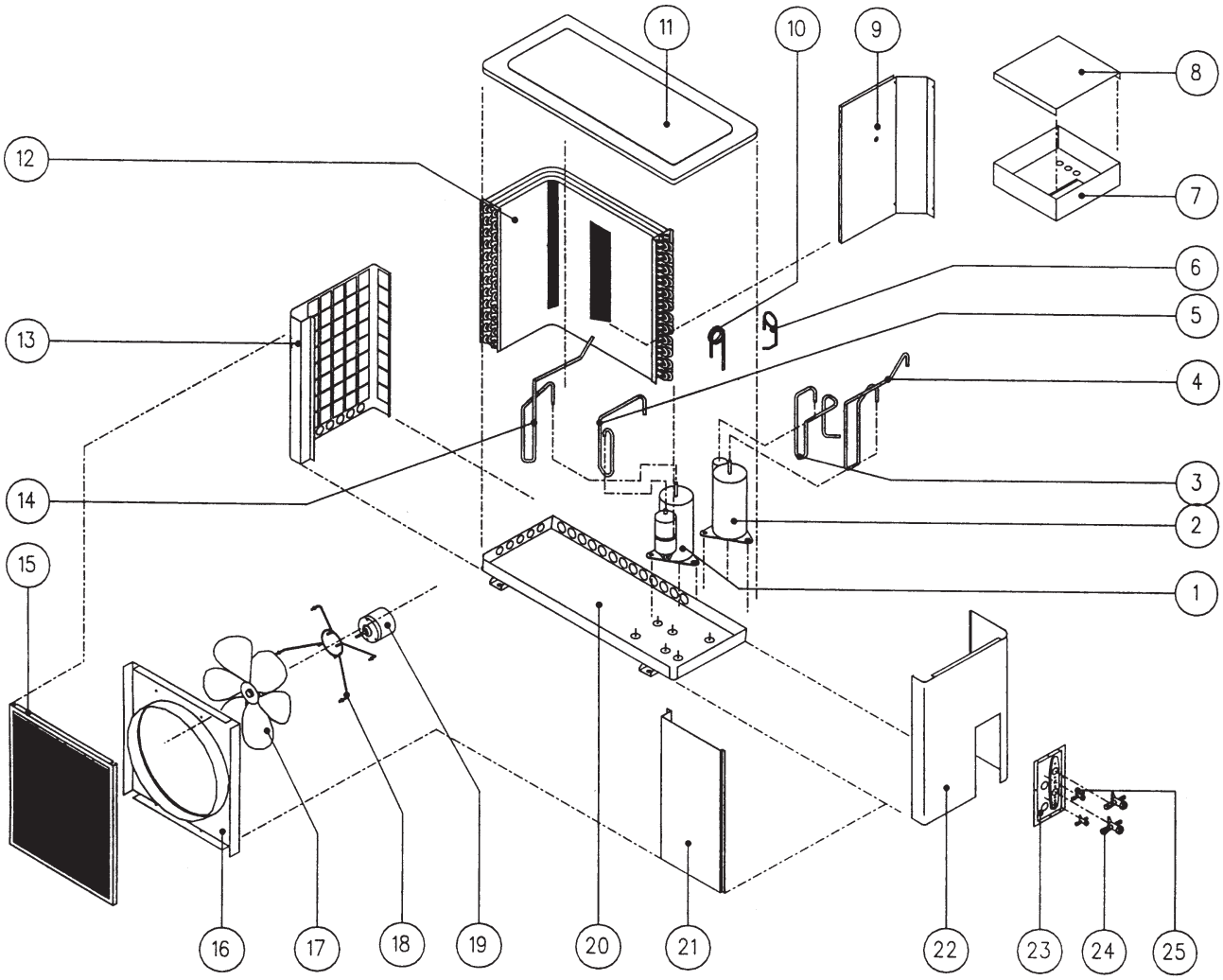
1. ROTARY COMPRESSOR 2 (1.0/1.5HP)	14. SUCTION TUBE 2
2. ROTARY COMPRESSOR 1 (2.0HP)	15. FAN GUARD
3. DISCHARGE TUBE 1	16. ORIFICE FOR 18” PROPELLER
4. SUCTION TUBE 1	17. FAN BLADE 18”
5. DISCHARGE TUBE 2	18. FAN MOTOR BRACKET
6. CAP. TUBE 2 ASSY	19. FAN MOTOR
7. CONTROL BOX ASSY	20. BASE PAN ASSY
8. CONTROL BOX COVER	21. FRONT PANEL
9. PARTITION	22. SIDE PANEL RIGHT
10. CAP. TUBE 1 ASSY	23. VALVE PLATE
11. TOP PANEL	24. FLARE VALVES (GAS)
12. CONDENSER COIL ASSY	25. FLARE VALVES (LIQUID)
13. SIDE PANEL LEFT	

MODEL : MMSD 1520AR



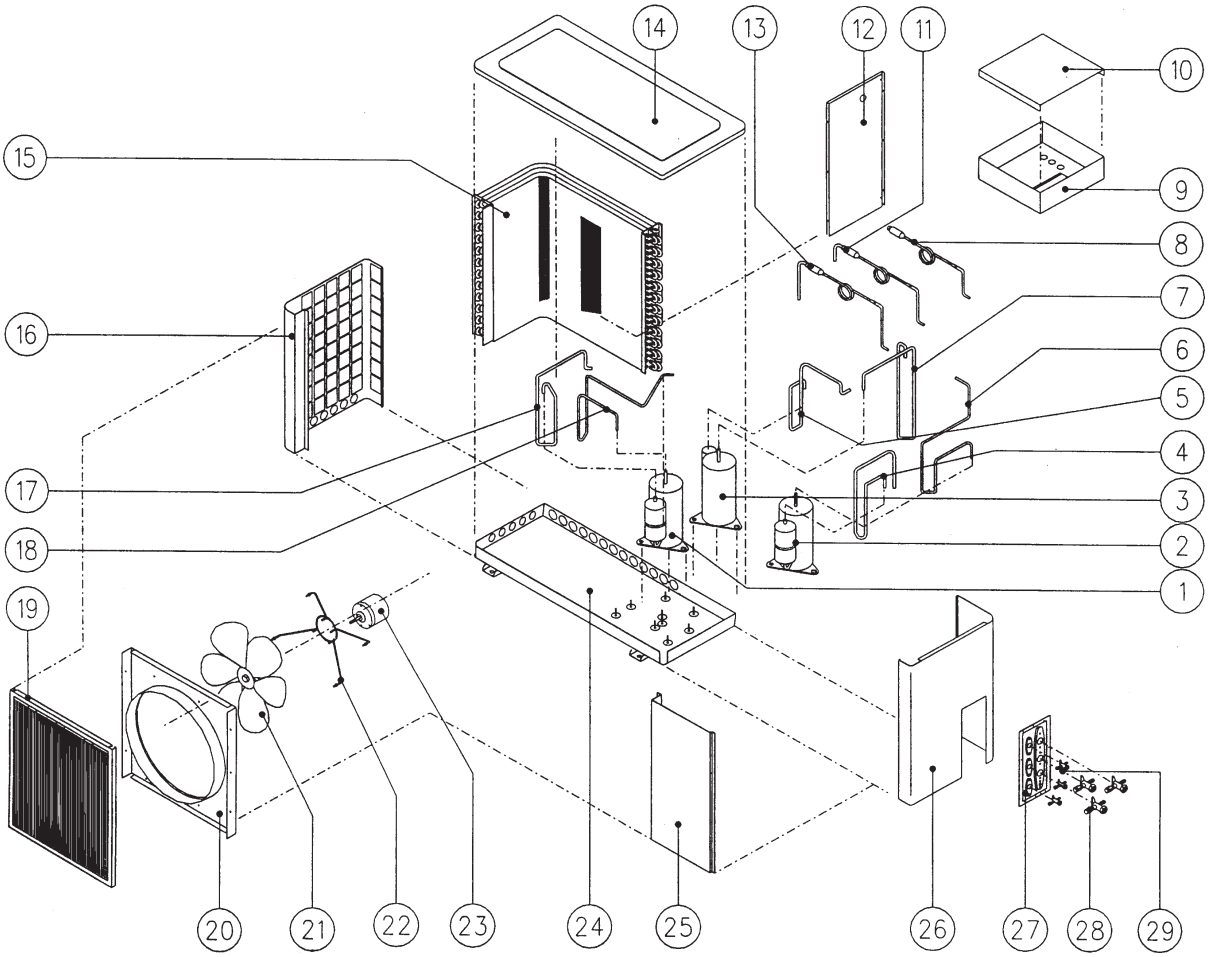
1. PANEL, TOP	16. ASSEMBLY, FLARE VALVE PLATE
2. ASSEMBLY, CONDENSER COIL	17. VALVE, FLARE 3 WAY ½”
3. TUBE, 4WV ‘E’ – GAS TO VALVE COMP. 1	18. VALVE, FLARE 3 WAY 5/8”
4. ASSEMBLY, SIDE PANEL LEFT INS.	19. VALVE, FLARE 3 WAY ¼”
5. TUBE, 4WV ‘C’ – O/D COIL COMP. 1	20. ASSY., SUCTION COMP. 2
6. TUBE, DISCHARGE COMP. 2	21. TUBE, 4WV ‘E’ COMP. 2
7. MATSUSHITA COMPRESSOR (2JS350D3BB02)	22. MATSUSHITA COMPRESSOR (2KS224D3AC02)
8. ASSEMBLY, FAN GUARD INS.	23. 4 WAY VALVE (CHV0201 OR V26110B)
9. ASSEMBLY, ORIFICE FOR 19” PROPELLER	24. ASSY., DISCHARGE COMP. 1
10. PROPELLER FAN 19”	25. ASSY., TUBE SUCTION COMP. 1
11. BRACKET, FAN MOTOR	26. TUBE, 4WV ‘C’ – GAS 1
12. MOTOR, FAN	27. ASSEMBLY, TERMINAL BOX (MAIN)
13. ASSEMBLY, BASE PAN	28. COVER, TERMINAL BOX
14. ASSEMBLY, PANEL FRONT INS.	29. PANEL, PARTITION
15. ASSY., SIDE PANEL RIGHT INS.	30. 4 WAY VALVE (CH0101 OR VH7100B)

MODEL : MMSD 2020A



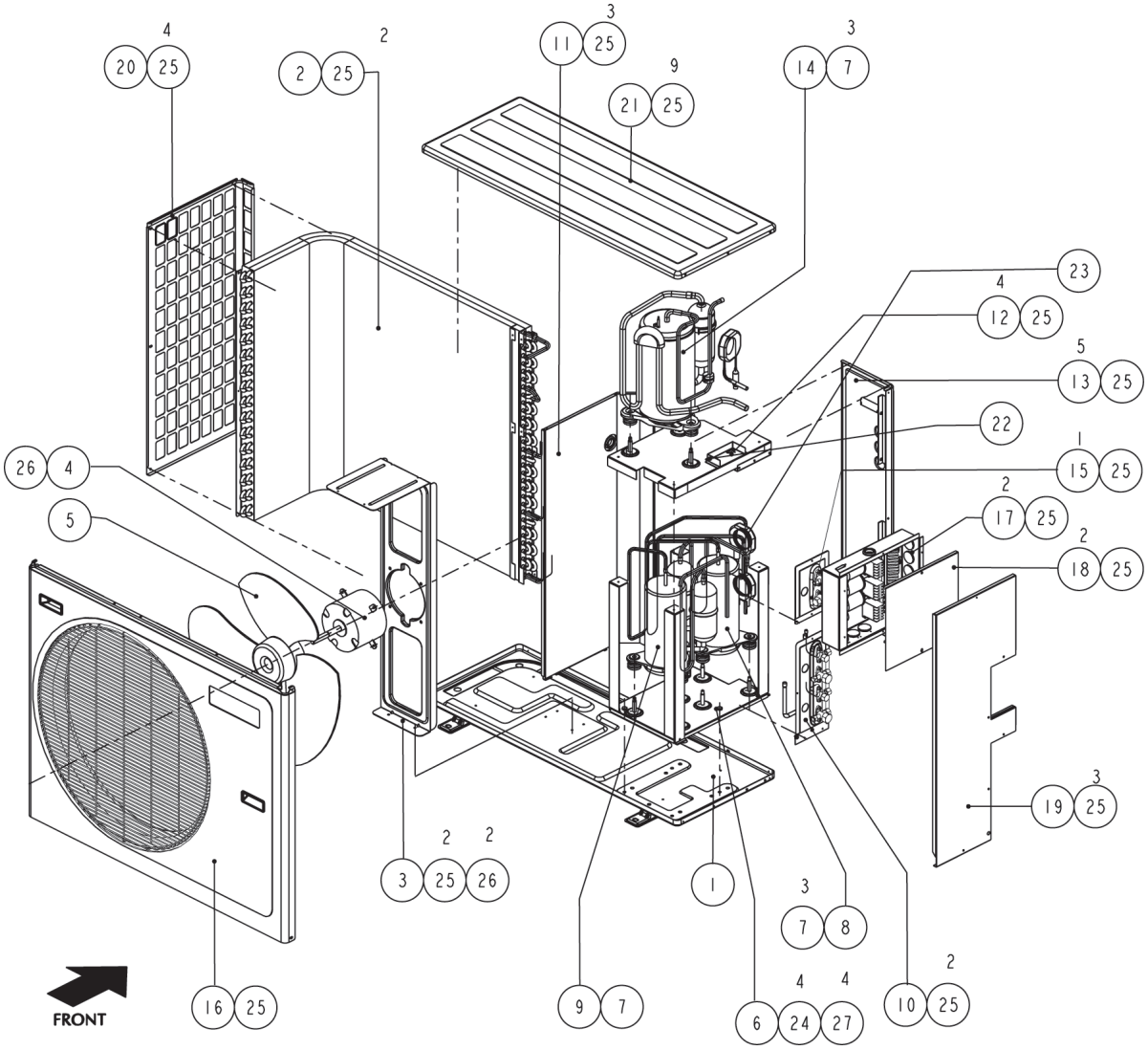
1. ROTARY COMPRESSOR 1	14. DISCHARGE TUBE 1
2. ROTARY COMPRESSOR 2	15. FAN GUARD
3. SUCTION TUBE 2	16. ORIFICE FOR 19” PROPELLER
4. DISCHARGE TUBE 2	17. FAN BLADE 19”
5. SUCTION TUBE 1	18. FAN MOTOR BRACKET
6. CAP. TUBE 2 ASSY	19. FAN MOTOR
7. CONTROL BOX ASSY	20. BASE PAN ASSY
8. CONTROL BOX COVER	21. FRONT PANEL
9. PARTITION	22. SIDE PANEL RIGHT
10. CAP. TUBE 1 ASSY	23. VALVE PLATE
11. TOP PANEL	24. FLARE VALVES (GAS)
12. CONDENSER COIL ASSY	25. FLARE VALVES (LIQUID)
13. SIDE PANEL LEFT	

MODEL : MMST 101010 / 101015 / 101515 / 151515 / 101020 A
M4MST 101010 / 101015 / 101515 / 151515 A



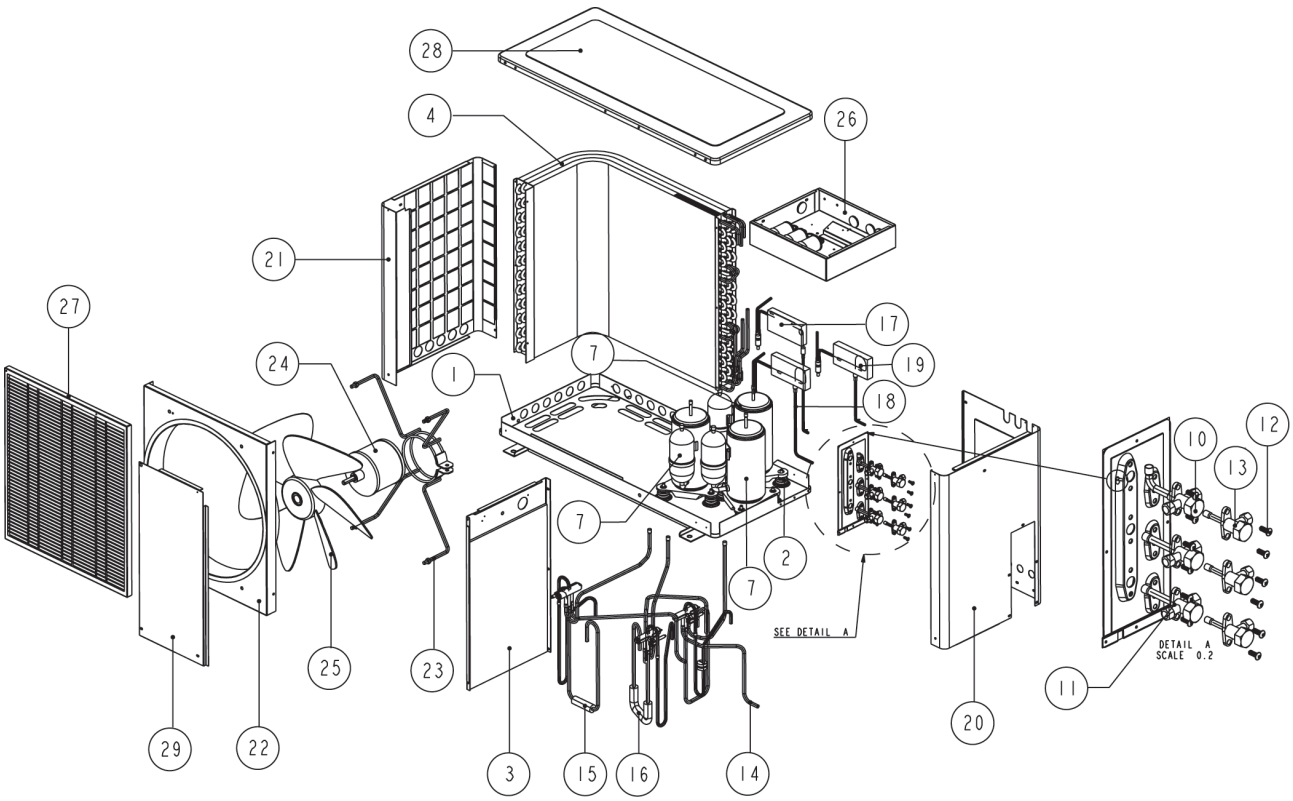
1. ROTARY COMPRESSOR 2	16. SIDE PANEL LEFT
2. ROTARY COMPRESSOR 1	17. SUCTION TUBE 2
3. ROTARY COMPRESSOR 3	18. DISCHARGE TUBE 2
4. SUCTION TUBE 1	19. FAN GUARD
5. SUCTION TUBE 3	20. ORIFICE FOR 19” PROPELLER
6. DISCHARGE TUBE 1	21. PROPELLER 19”
7. DISCHARGE TUBE 3	22. FAN MOTOR BRACKET
8. CAP. TUBE 1 ASSY	23. FAN MOTOR
9. CONTROL BOX ASSY	24. BASE PAN ASSY
10. CONTROL BOX COVER	25. FRONT PANEL
11. CAP. TUBE 2 ASSY	26. SIDE PANEL RIGHT
12. PARTITION	27. VALVE PLATE
13. CAP. TUBE 3 ASSY	28. FLARE VALVES (GAS)
14. TOP PANEL	29. FLARE VALVES (LIQUID)
15. CONDENSER COIL ASSY	

MODEL : MMST 101025 / 101525 / 151525 A



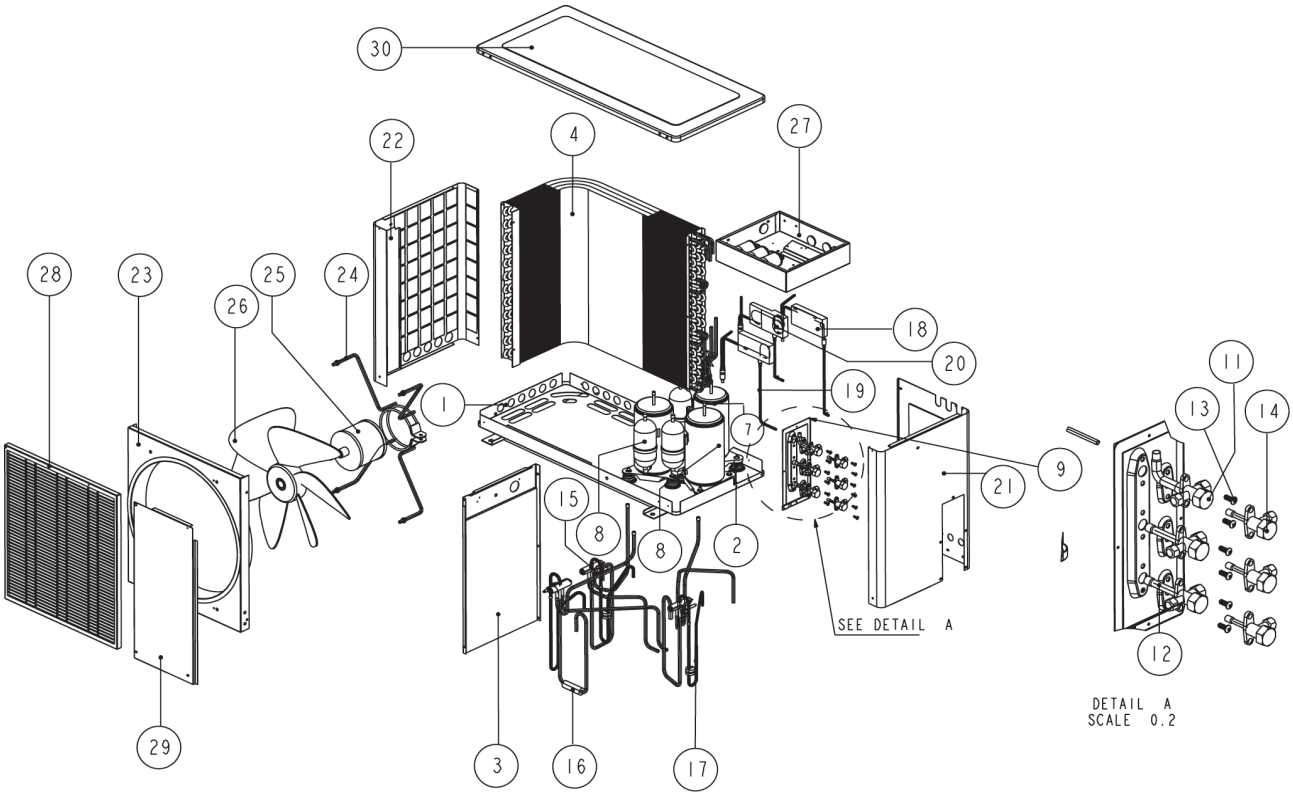
1. ASSY, PANEL BASE	15. ASSY, VALVE BRACKET
2. ASSY, MAIN COIL	16. ASSY, FRONT PANEL
3. BRACKET, MOTOR	17. ASSY, CONTROL BOX
4. FAN MOTOR (YJ145 - SWELLING)	18. ASSY, STICKER GUIDE TER. BOX COVER
5. FAN, BLADE	19. ASSY, PANEL SERVICE
6. ASSY, MOUNT PLATE BTM	20. PANEL, SIDE LEFT
7. RUBBER, GROMMET	21. PANEL, TOP
8. COMPRESSOR, (2PS164D2BC02)	22. BUSH, RUBBER
9. COMPRESSOR, (2KS2240D3AC02)	23. ASSY, UNIT TUBING
10. ASSY, VALVE BRACKET	24. SCREW, SELF TAPPING
11. ASSY, PANEL PARTITION	25. SCREW, PH T/HD 8 x 3/8 - (R / P)
12. ASSY, MOUNTING PLT TOP	26. SCREW, TRUSS HEAD PHILIP M5 x 16
13. ASSY, PANEL BACK RIGHT	27. WASHER, SPRING OD15 x ID8.5 x t1.2
14. ASSY, COMP. 2JS438D3 (BENDED)	

MODEL : M4MST 101010AR



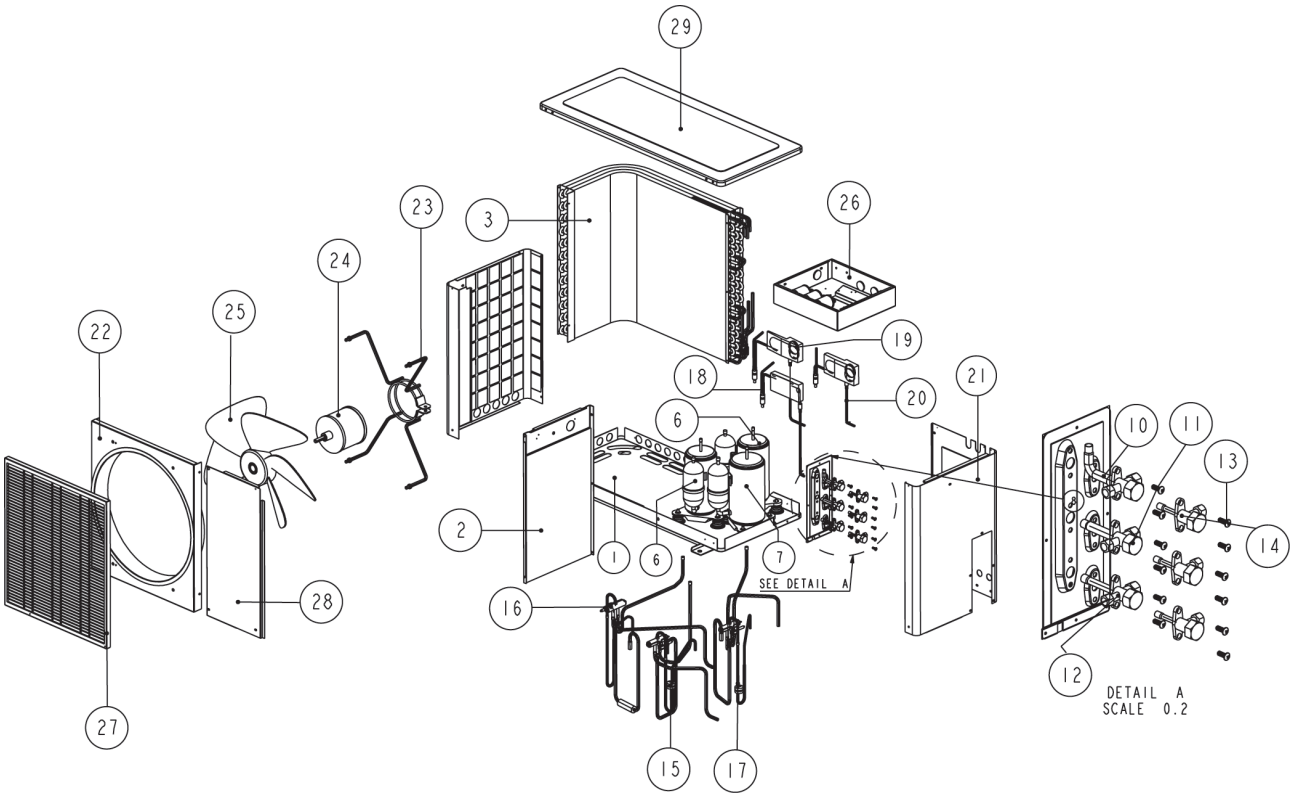
1. ASSY., BASE PAN	16. ASSY., 4WV COMP. 3 (1.0 HP)
2. COMPRESSOR, RUBBER GROMMET	17. ASSY., CAP. TUBE 1 (1.0 HP)
3. ASSY., INS. PARTITION	18. ASSY., CAP. TUBE 2 (1.0 HP)
4. ASSY., OUTDOOR COIL MAIN	19. ASSY., CAP. TUBE 3 (1.0 HP)
5. CLIP, SENSOR M2 6mm x 9.52mm	20. ASSY., SIDE PANEL RIGHT INS.
6. SENSOR, OUTDOOR DEFROST	21. PANEL, SIDE LEFT
7. ASSY., COMP. 4PS1640AA	22. ASSY., ORIFICE 19” PROPELLER
8. ASSY., VALVE PLATE MAIN	23. BRACKET, MOTOR
9. FLARE JOINT VALVE PLATE	24. ASSY., FAN MOTOR
10. ASSY., 3-WAY VALVE (1/2”)	25. PROPELLER, FAN (19”)
11. ASSY., 3-WAY VALVE (3/8”)	26. ASSY., PANEL TERMINAL BOX
12. SCREW, TRUSS HEAD PHILLIP	27. FAN, GUARD
13. ASSY., 2-WAY VALVE (¼”)	28. PANEL, TOP
14. ASSY., 4WV COMP. 1 (1.0 HP)	29. PANEL, FRONT
15. ASSY., 4WV COMP. 2 (1.0 HP)	

MODEL : M4MST 101015AR



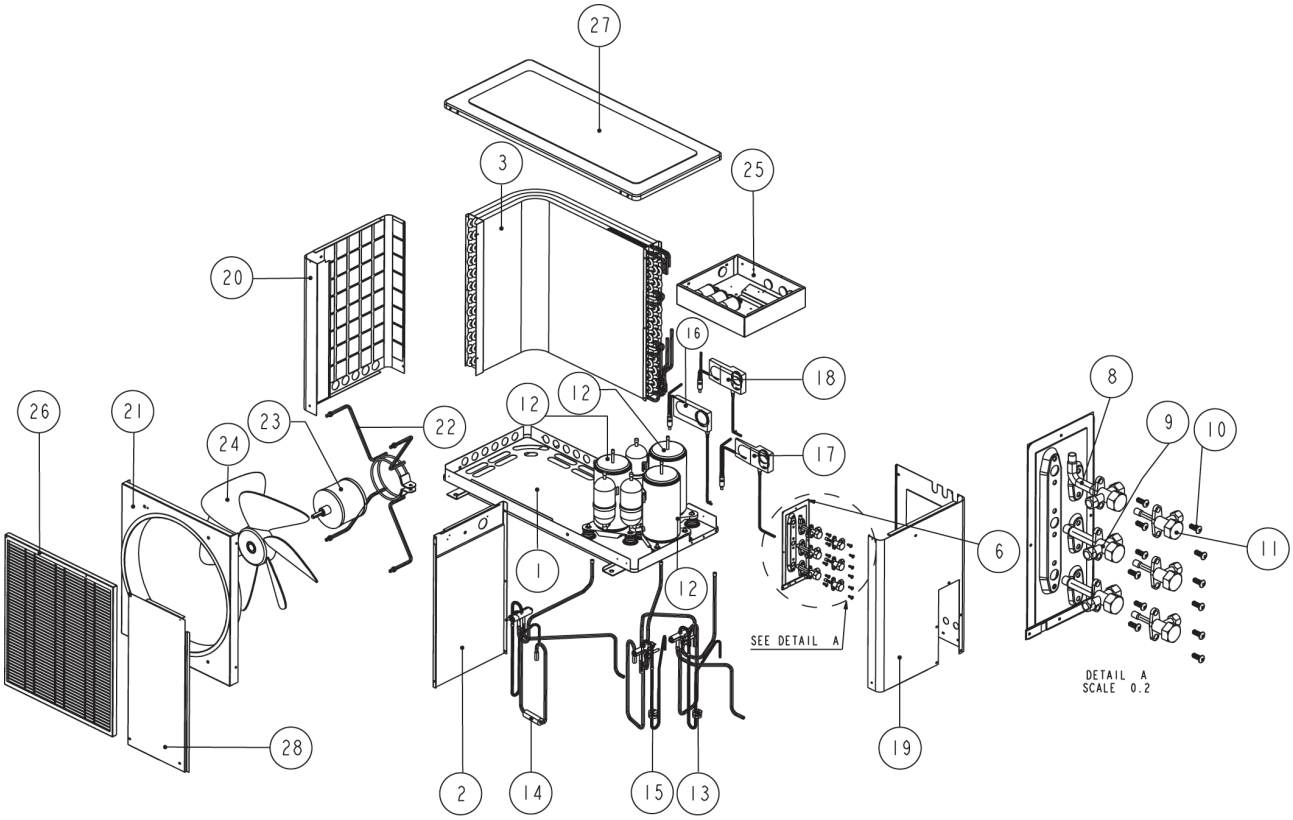
1. ASSY., BASE PAN	16. ASSY., 4WV COMP. 2 (1.0 HP)
2. COMPRESSOR, RUBBER GROMMET	17. ASSY., 4WV COMP. 3 (1.5 HP)
3. ASSY., INS. PARTITION	18. ASSY., CAP. TUBE 1 (1.0 HP)
4. ASSY., OUTDOOR COIL MAIN	19. ASSY., CAP. TUBE 2 (1.0 HP)
5. CLIP, SENSOR M2 6mm x 9.52mm	20. ASSY., CAP. TUBE 3 (1.5 HP)
6. SENSOR, OUTDOOR DEFROST	21. ASSY., SIDE PANEL RIGHT INS.
7. ASSY., COMP. 4PS1640AA	22. PANEL, SIDE LEFT
8. ASSY., COMP. 4PS2250AA	23. ASSY., ORIFICE 19” PROPELLER
9. ASSY., VALVE PLATE MAIN	24. BRACKET, MOTOR
10. FLARE JOINT VALVE PLATE	25. ASSY., FAN MOTOR
11. ASSY., 3-WAY VALVE (½”)	26. PROPELLER, FAN (19”)
12. ASSY., 3-WAY VALVE (3/8”)	27. ASSY., PANEL TERMINAL BOX
13. SCREW, TRUSS HEAD PHILLIP	28. FAN, GUARD
14. ASSY., 2-WAY VALVE (¼”)	29. PANEL, FRONT
15. ASSY., 4WV COMP. 1 (1.0 HP)	30. PANEL, TOP

MODEL : M4MST 101515AR



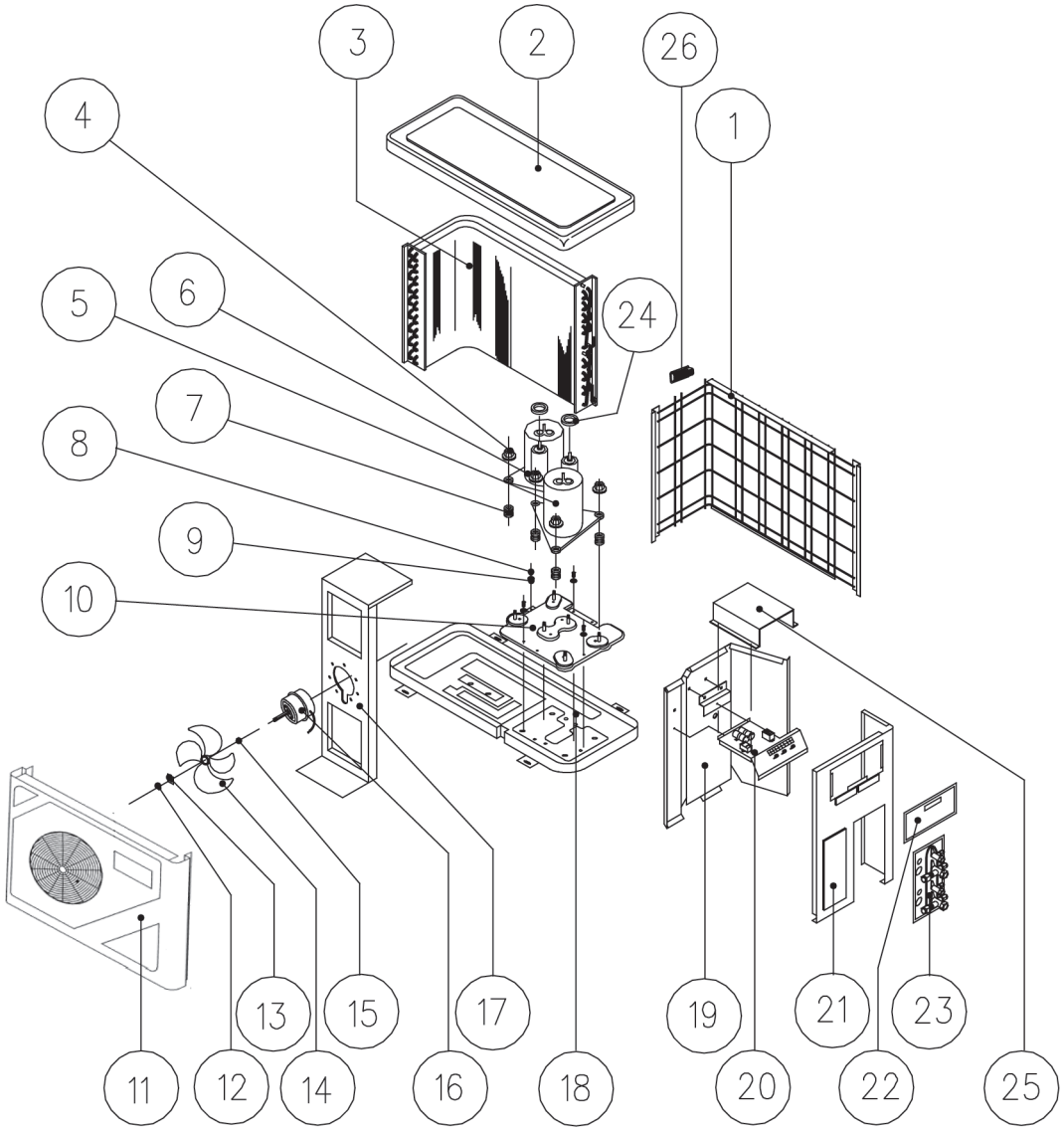
1. ASSY., BASE PAN	16. ASSY., 4WV COMP. 2 (1.5 HP)
2. ASSY., INS. PARTITION	17. ASSY., 4WV COMP. 3 (1.5 HP)
3. ASSY., OUTDOOR COIL MAIN	18. ASSY., CAP. TUBE 1 (1.0 HP)
4. CLIP, SENSOR M2 6mm x 9.52mm	19. ASSY., CAP. TUBE 2 (1.5 HP)
5. SENSOR, OUTDOOR DEFROST	20. ASSY., CAP. TUBE 3 (1.5 HP)
6. ASSY., COMP. 4PS1640AA	21. ASSY., SIDE PANEL RIGHT INS.
7. ASSY., COMP. 4KS2250AA	22. ASSY., ORIFICE 19” PROPELLER
8. ASSY., VALVE PLATE MAIN	23. BRACKET, MOTOR
9. FLARE JOINT VALVE PLATE	24. ASSY., FAN MOTOR
10. ASSY., 3-WAY VALVE (1/2”)	25. PROPELLER, FAN (19”)
11. ASSY., 3-WAY VALVE (1/2”)	26. ASSY., PANEL TERMINAL BOX
12. ASSY., 3-WAY VALVE (3/8”)	27. FAN, GUARD
13. SCREW, TRUSS HEAD PHILLIP	28. PANEL, FRONT
14. ASSY., 2-WAY VALVE (¼”)	29. PANEL, TOP
15. ASSY., 4WV COMP. 1 (1.0 HP)	

MODEL : M4MST 151515 AR



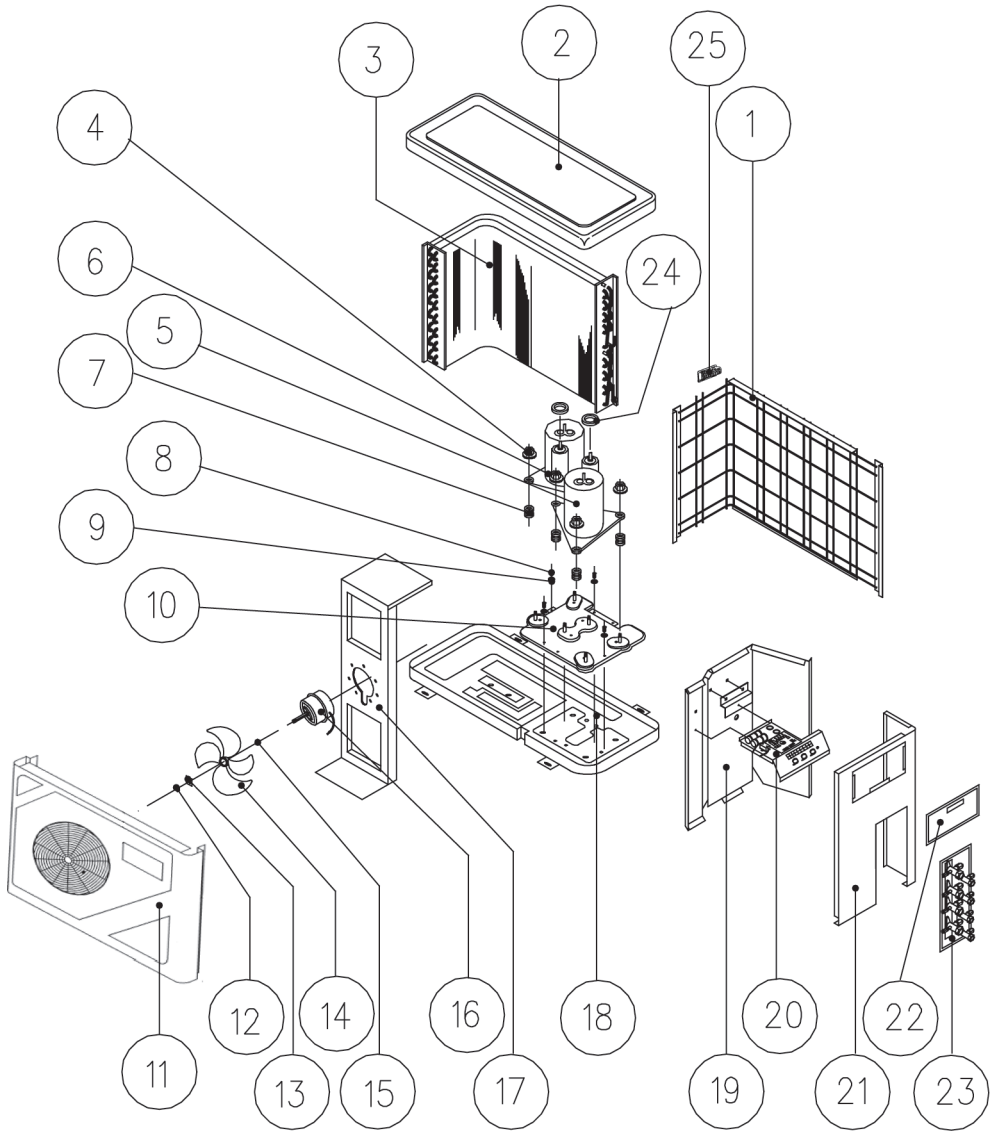
1. ASSY., BASE PAN	15. ASSY., 4WV COMP. 3 (1.5 HP)
2. ASSY., INS. PARTITION	16. ASSY., CAP. TUBE 1 (1.5 HP)
3. ASSY., OUTDOOR COIL MAIN	17. ASSY., CAP. TUBE 2 (1.5 HP)
4. CLIP, SENSOR M2 6mm x 9.52mm	18. ASSY., CAP. TUBE 3 (1.5 HP)
5. SENSOR, OUTDOOR DEFROST	19. ASSY., SIDE PANEL RIGHT INS.
6. ASSY., VALVE PLATE MAIN	20. PANEL, SIDE LEFT
7. FLARE JOINT VALVE PLATE	21. ASSY., ORIFICE 19” PROPELLER
8. ASSY., 3-WAY VALVE (½”)	22. BRACKET, MOTOR
9. ASSY., 3-WAY VALVE (½”)	23. ASSY., FAN MOTOR
10. SCREW, TRUSS HEAD PHILLIP	24. PROPELLER, FAN (19”)
11. ASSY., 2-WAY VALVE (¼”)	25. ASSY., PANEL TERMINAL BOX
12. ASSY., COMP. 4KS2250AA	26. FAN, GUARD
13. ASSY., 4WV COMP. 1 (1.5 HP)	27. PANEL, TOP
14. ASSY., 4WV COMP. 2 (1.5 HP)	28. PANEL, FRONT

MODEL : MMSH 8K8 A



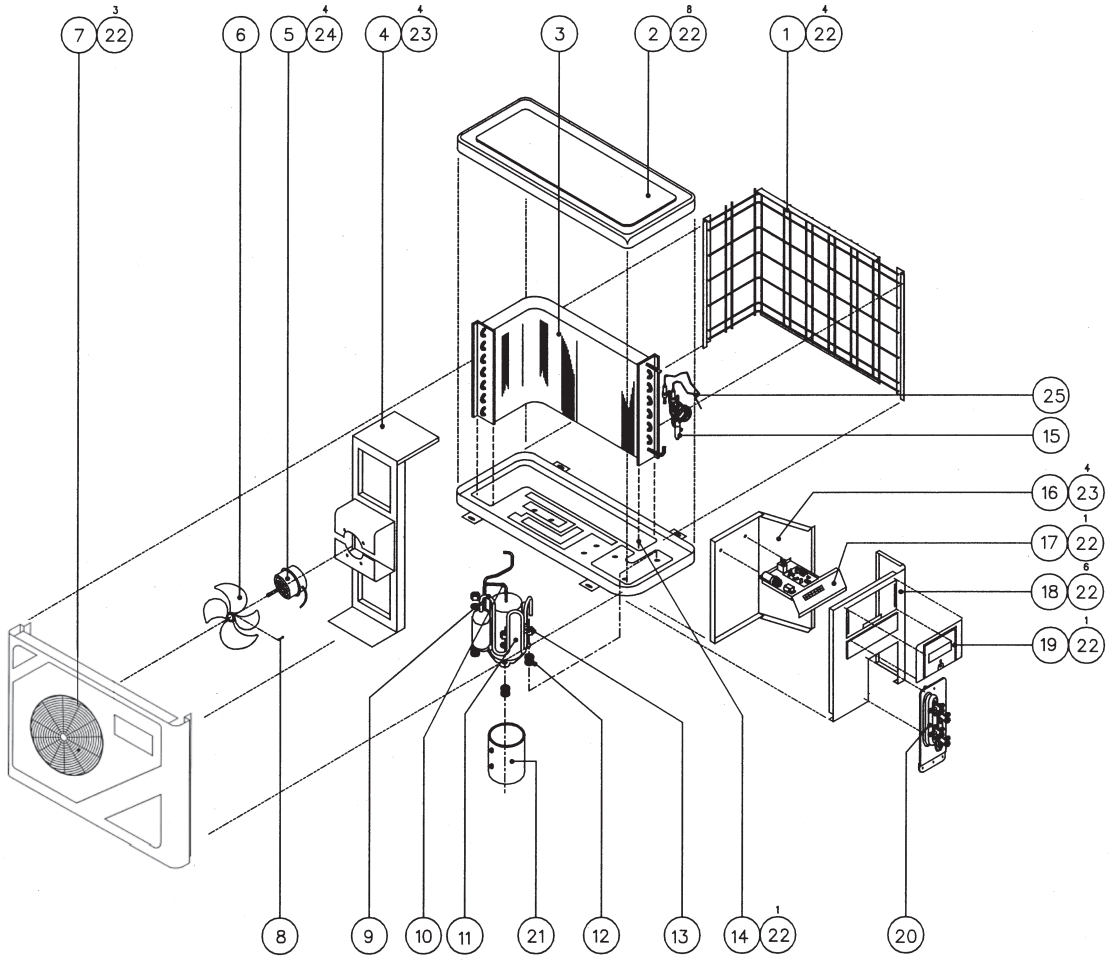
1. ASSY, BACK PANEL	14. FAN BLADE
2. ASSY, TOP PANEL	15. WASHER, RING
3. ASSY, CONDENSER COIL	16. MOTOR, FAN
4. NUT M8 WITH WASHER	17. BRACKET, FAN MOTOR
5. ROTARY COMPRESSOR A (2PS132D2AB02)	18. ASSY, BASE PAN
6. ROTARY COMPRESSOR B (2PS132D2AB02)	19. ASSY, PARTITION
7. RUBBER GROMMET	20. ASSY, TERMINAL BOX PANEL
8. SCREW, TRUSS HEAD PHILIP	21. ASSY, SIDE PANEL
9. WASHER, SPRING	22. ASSY, ACCESS PANEL
10. ASSY, MOUNTING PLATE	23. ASSY, VALVE PLATE
11. ASSY, PANEL FRONT	24. DAMPER, RUBBER
12. NUT, HEXAGON 3/8"	25. COVER, TERMINAL BOX
13. WASHER, SQUARE	26. HANDLING HANDLE

MODEL : MMSH 8K66 / 66K66 / 66K555 A



1. ASSY, BACK PANEL	14. FAN BLADE
2. ASSY, TOP PANEL	15. WASHER, RING
3. ASSY, CONDENSER COIL	16. MOTOR, FAN
4. NUT M8 WITH WASHER	17. BRACKET, FAN MOTOR
5. ROTARY COMPRESSOR A (2PS192D2AB02)	18. ASSY, BASE PAN
6. ROTARY COMPRESSOR B (2PS192D2AB02)	19. ASSY, PARTITION
7. GROMMET, RUBBER	20. ASSY, TERMINAL BOX PANEL
8. SCREW, TRUSS HEAD PHILIP	21. ASSY, SIDE PANEL
9. WASHER, SPRING	22. ASSY, ACCESS PANEL
10. ASSY, MOUNTING PLATE	23. ASSY, VALVE PLATE
11. ASSY, PANEL FRONT	24. DAMPER, RUBBER
12. NUT, HEXAGON 3/8"	25. HANDLING HANDLE
13. WASHER, SQUARE	

MODEL : MMSH K77 A



1. BACK PANEL ASSY	14. BASE PAN ASSY
2. TOP PANEL ASSY	15. CAPILLARY TUBE ASSY
3. CONDENSER COIL ASSY	16. PARTITION ASSY
4. MOTOR MOUNTING BRACKET	17. TERMINAL BOX ASSY
5. FAN MOTOR	18. SIDE PANEL ASSY
6. FAN BLADE	19. ACCESS PANEL
7. FRONT GRILLE ASSY	20. VALVE PLATE ASSY
8. FAN SET SCREW	21. COMPRESSOR JACKET
9. TUBE SUCTION A & B ASSY	22. TRUSS HEAD PHILIP SCREW
10. DISCHARGE TUBE	23. PAN HEAD TAPPING SCREW
11. ROTARY COMPRESSOR	24. TRUSS HEAD PHILIP SCREW
12. RUBBER GROMMET	25. SOLENOID COIL INS 1&2 ASSY
13. NUT WITH WASHER (M8)	

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